X-PLANES

GERMAN LUFTWAFFE PROTOTYPES 1930-1945

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Preface and Acknowledgements

The development of civil and military aircraft in Germany between the years 1930 and 1945 was an impressive portent of things to come in the world of aviation. The introduction and use of ever more highly advanced technology by both the German aircraft industry and governmental research establishments throughout the country led to huge strides forward in production and design. Thanks to new construction techniques, the various manufacturers were in a position to offer a whole host of modern, state-of-the-art aircraft and helicopters. But very few of these projects were destined ever to be produced. The vast majority of the outstanding, not to say revolutionary designs submitted to the Reichsluftfahrtministerium (RLM: Reich Ministry of Aviation) were rejected by those in authority. The diehards who inhabited the corridors of power in Berlin were still blinkered by the criteria of World War I. In their minds all that was required to ensure German air superiority were aircraft that were just a few miles per hour faster than their British, French or Russian counterparts.

Ultimately it was the RLM, together with other state agencies – not least Albert Speer's omnipotent Reichsministerium für Rüstung und Kriegsproduktion (Reich Ministry of Armaments and War Production) and Heinrich Himmler's all-embracing SS-Wirtschafts-hauptamt (SS Central Office of Economics) – which were to assume control over the development and production of all new Luftwaffe aircraft. For, as Hermann Göring's Luftwaffe lost one campaign after the other, its fortunes went into terminal decline. Its authority was taken over by the administrative departments of the RLM and the SS until, in the end, Germany's aircraft manufacturers were stripped of all freedom of choice.

Before going into the details of aircraft development and describing all the important German designs of the 1930 – 1945 period – civil and military, fixed-wing and rotary – I would like to take this opportunity to thank all those who have helped me in my work by supplying many of the photographs and much

invaluable data and information:

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I should perhaps point out that a number of the official sources from the years 1930 – 1945 I have used for reference purposes contain conflicting information as to the actual serial numbers and/or codes carried by certain aircraft. Likewise, some pilot’s logbooks may quote different numbers or codes for a particular machine. If any reader possesses reliable and verifiable information on the

subject, I would welcome it with a view to correcting any mistakes inadvertently made.

Manfred Griehl,
Mainz, 2012
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Aircraft Development by the RWM and RLM

After its defeat in World War I the former German Reich was forced to carry out the development and evaluation of its future civil and military aircraft under conditions of the strictest secrecy. A number of new designs, particularly warplanes, were tested by German pilots and crews at bases in Italy, Sweden and the Soviet Union. Once the Allies had lifted their ban on the production of civil machines in Germany, several military types were developed under the guise of commercial airliners or civil courier aircraft.

Until 1933 everything relating to civil aviation came under the control of the Weimar government's Reichsverkehrsministerium (Reich Ministry of Transport), while all military aviation matters were the (clandestine) responsibility of the Reichswehrministerium (RWM: Reich Ministry of Defence).

Adolf Hitler being briefed about new aircraft projects by Dr.-Ing. Vogt during a visit to the
Blohm und Voss works at Hamburg-Finkenwärder. ***(Nowarra)***

Hitler and Hermann Göring together with Ernst Udet during the presentation of a tethered
Bf 110 pre-series aircraft used for the testing of fixed weapons. ***(Nowarra)***

In the immediate aftermath of World War I Germany had been strictly prohibited from developing military aircraft in any form. Although Allied controls were rigorous, the German government – initially supported by the Soviet Union – covertly set about laying the foundations for a secret new arm, which became known as the 'Risikoluftwaffe' (literally 'Risk Air Force'). Unbeknown to the Allied Control Commission, design bureaux all over the Reich were engaged in drawing up plans for a whole raft of new and modern fighters, bombers and reconnaissance aircraft. Between 1 March 1920 and 31 March 1927 the Reichswehrministerium, more specifically the Heeresleitung (Army High Command), established the so-called Truppenamt (L) (Armed Forces Office/Air), which then became directly responsible for all matters pertaining to military aviation, including personnel, equipment and organization.

This office supervised the development and manufacture of all new military aircraft types and oversaw their subsequent flight-testing at Lipezk, a large secret airbase in the Soviet Union that was operated jointly by the Germans and the Russians over a period of many years.

In 1924 the Reichswehrministerium set up the Amtsgruppe Waffenbeschaffung (Department of Weapons Procurement). Under a Chefinspekteur Waffen und Gerät (Chief Inspector of Weapons and Equipment) this Amtsgruppe was divided into a number of sub-departments, one of which – Wa B 6F, headed by Hauptmann Volkmann – was initially responsible for the procurement of all aircraft, aircraft engines and ancillary equipment. In 1929, however, this responsibility passed directly to the control of the head of the RWM's Heereswaffenamt (Army Ordnance Directorate).

Thereafter Hauptmann Volkmann, erstwhile head of Wa B 6F, was appointed controller of the Amtsgruppe Entwicklung (Development Department) of the RWM. One of his subordinates was the then Hauptmann Jeschonnek (later to become the Luftwaffe's first Chief of General Staff), who was himself in charge of six sub-departments: aircraft, engines, general equipment, weapons and ordnance, reconnaissance equipment and wireless-telegraphy. Volkmann also controlled the RWM's first Erprobungsstelle (Test Centre; usually abbreviated to E-Stelle), which had been established at Rechlin, as well as the test facility code-named 'Albatros'. But the officer directly responsible for the overall procurement of aircraft and equipment was Hauptmann Seidner, who was also head of the 'Bauaufsicht Luft' (BAL: Works Quality Control/Air).

As of 1 October 1929 (and until 31 March 1933), Wa Prw 8 – a section of the newly reorganized Waffenprüfwesen (Armaments Test Department) under Major Wimmer – was itself divided into five further sub-groups:

The Reichsluftfahrtministerium (RLM) building in the centre of the Berlin. (LMG)

Reichsmarschall Hermann Göring, an ace fighter pilot of World War I, became the head of the RLM, but could not solve all the problems in his ministry. (Haberfellner)

Gruppe 1	Development of aircraft	Hauptmann Konrad
Gruppe 2	Development of equipment	Hauptmann Ploch
Gruppe 3	Test establishments	Massenbach
	a) Rechlin	
	b) ‘Albatros’	
	c) Staaken	
	d) Lipezk	
Gruppe 4	Provision of all Luftwaffe aircraft and equipment	Hauptmann Seidner

Gruppe 5	Wehrwirtschaft and Rüstung (military economy and armament)	Wegner

It was thus under the aegis of the Weimar government that the various offices and departments mentioned above laid the foundations for Germany's new air arm. It was they who ordered the first aircraft to be built, who organized their testing (either at home or abroad) and who selected the most suitable and promising designs to enter operational service.

However, shortly before the assumption of power of Adolf Hitler and his Nazi Party, the RWM set up a separate Reichsluftfahrtministerium (RLM: Reich Air Ministry), soon to be headed by Hermann Göring. And on 1 June 1933 the RLM was in turn divided into a Luftschutzamt (LA: Air Defence Department) and an Allgemeines Luftamt (LB: General Aviation Department); the latter being headed by the famous World War I fighter pilot Ernst Udet, who was subsequently to become the Staatssekretär der Luftfahrt (Secretary of State for Aviation). Udet's office initially consisted of five sub-departments: LB I (Air Transport), LB II (Technical Development), LB III (Sports Flying and Training), LB IV (Aerial Photography) and LB V (Ground Organization). Only three months after that, on 1 October 1933, the RLM underwent further reorganization, being split into six major departments:

Department ZA	Zentralabteilung	Central Office
Department LA	Luftkommandoamt	Operations Department
Department LB	Allgemeines Luftamt	General Department
Department LC	Technisches Amt	Technical Department
Department LD	Luftwaffenkommandoamt	Luftwaffe Command Department
Department LP	Luftwaffenpersonalamt	Luftwaffe Personnel Department

Most aircraft evaluation took place in the facilities of the different producers. This photo shows preparations for a high-altitude trial with an Si 202 at Halle. ***(Lange)***

From left, Professor Dornier, Generalfeldmarschall Milch, Generaloberst Udet and Dornier

director Flittinger, during an inspection at Friedrichshafen. (EADS)

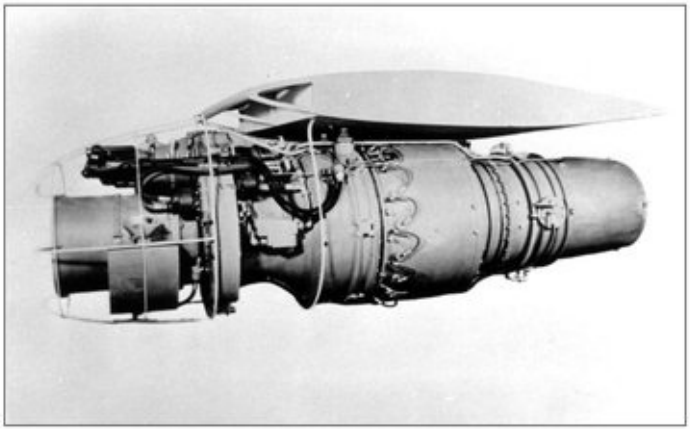
Watched by Generalfeldmarschall Milch, Reichsminister Albert Speer delivers a speech
about aircraft and rocket development. (Johannsen)

On 1 April 1935 a new department was created: the office of Luftzeugmeister (LZM: Director of Equipment). And from 1 June 1935 the Luftkommandoamt (LA) became responsible for nearly all aspects of tactical leadership within the Luftwaffe. While this latter department grew ever larger, the Technisches Amt (LC: usually abbreviated simply to C-Amt) would remain relatively unchanged in its scope and authority right up until the early days of World War II. On 9 June 1936 Ernst Udet took over as head of the C-Amt and its thirteen sub-divisions:

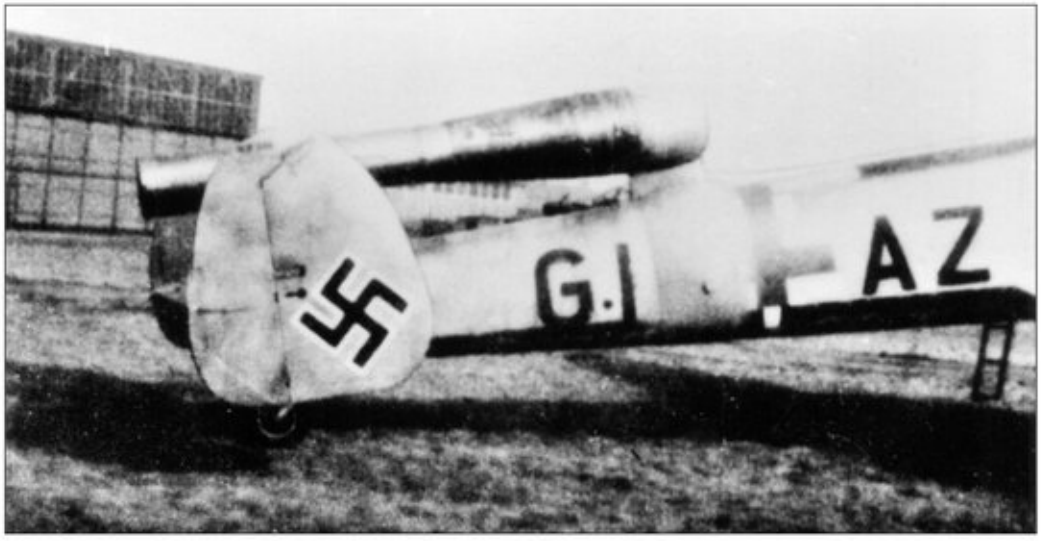
Department LC 1	Planung	Planning
Department LC 2	Wehrwirtschaft	Military Economy
Department LC 3	Fertigung	Production
Department LC 4	Prüfung/Bauaufsicht	Inspection/Control

Department LC 5	Forschung	Research
Department LC 6	Sicherheit	Security
Department LC 7	Flugzeuge	Aircraft
Department LC 8	Motoren	Engines
Department LC 9	Navigation	Navigation
Department LC 10	Allgemeine Ausrüstug	General Equipment
Department LC 11	Waffen/Munition	Weapons and Ammunition
Department LC 12	Bomben/Abwurfgeräte	Bombs/Bomb Release Systems
Department LC 13	Bodengerät	Ground Equipment

The development of high-performance in-line engines, for example that of the BMW 803,
became very important for future aircraft designs. (MTU)



Wooden mock-ups of second-generation jet engines, like this one of the Heinkel HeS 011, were used for testing their future installation. (Heinkel)



Alongside modern in-line and radial piston engines, trials were also undertaken with new pulse-jet systems. Here an As 015 has been installed on the fuselage of a Bf 110. ***(Herwig)***

In addition, Ernst Udet was responsible for the research centres at Rechlin and Travemünde (see Chapter 3). But on 5 October 1939 further reorganization took place when the office of the Luftzeugmeister was elevated to that of Generalluftzeugmeister (GL: Director-General of Equipment) and a new department, GL/C, was created. This comprised eight sub-groups:

Department GL/C 1	Forschung	Research
Department GL/C 2	Flugzeuge	Aircraft
Department GL/C 3	Motoren	Engines
Department GL/C 4	Nachrichten-und Navigationsgeräte	Signals and Navigation Equipment

Department GL/C 5	Allgemeine Ausrüstung	General Equipment
Department GL/C 6	Schusswaffen und Munition	Weapons and Ammunition
Department GL/C 7	Bomben/Abwurfgeräte	Bombs/Bomb Release Systems
Department GL/C 8	Bodengerät	Ground Equipment

The Focke-Wulf development team consisting of Tank, Stampp, Mittelhuber, Pabst and Naumann during tests with the 'Flitzer' model. (Weber)

All eight groups were in turn made up of numerous smaller sub-departments. The GL/C also controlled five test and evaluation centres. By early World War II the office of the Generalluftzeugmeister had been structured into three major departments:

Technisches Amt (Technical Department) under the Chef Technisches Amt (LC: Chief of Technical Department

Nachschubamt (Supply Department) under the Chef Nachschubamt (LE: Chief of Supply Department)

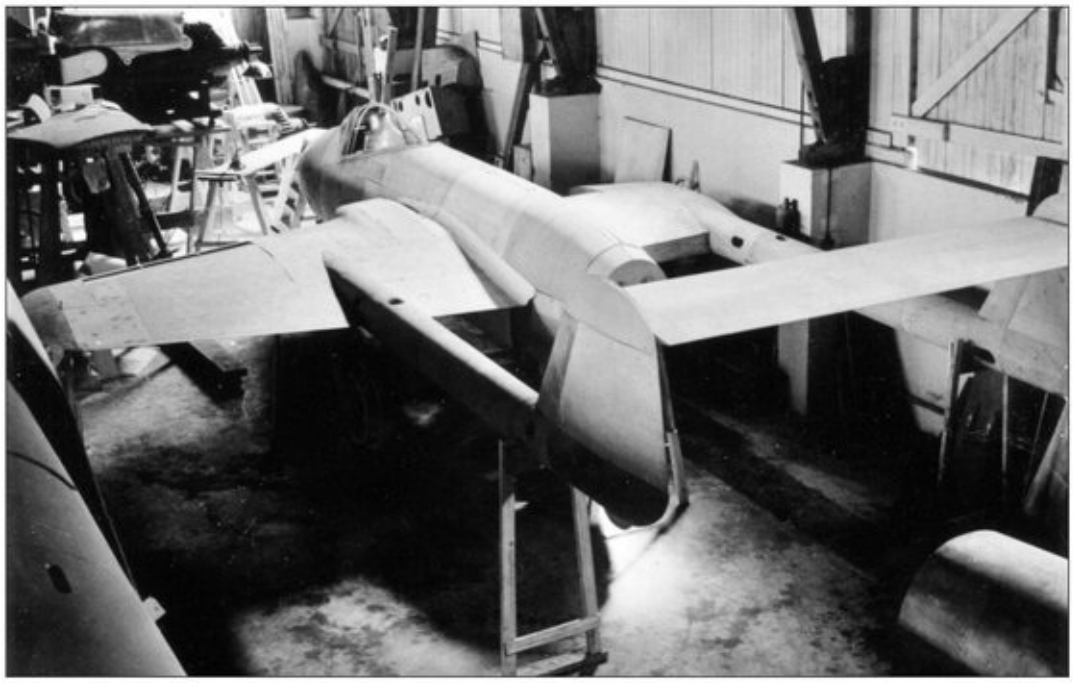
Planungsamt Wehrwirtschaft und Rüstungsindustrie (Planning Department/Economic Development and Armaments Industry) under the Chef LF.

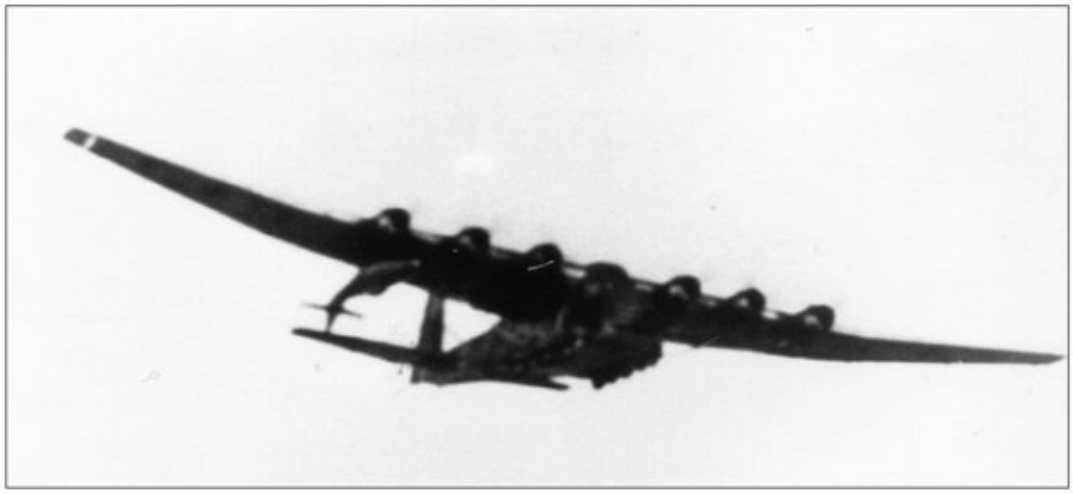
While the Technisches Amt was responsible for the development and testing of new German aircraft, the Nachschubamt controlled the production of all types built by German manufacturers and those in occupied countries such as the Netherlands, France and the so-called Protectorate of Bohemia and Moravia (previously part of Czechoslovakia). On 22 April 1940 the RLM added a further department to the office of the GL. This was the Allgemeine Flakentwicklung (General Anti-Aircraft Development). And during the autumn of 1941 the size and influence of the GL was expanded yet again. It now comprised the following:

L/Flak	Allgemeine Flakentwicklung	General AA Development
LA/P	Planungsamt	Planning Department
LC	Technisches Amt	Technical Department
LE	Nachschubamt	Supply Department
LF	Industrie-und Wirtschaftamt	Industrial and Economic Affairs
	Industrierat des Reichsmarschall	Industrial Council of the Reichsmarschall

A mock-up of one of the huge Focke-Wulf long-range strategic combat aircraft, begun in 1943. (Weber)

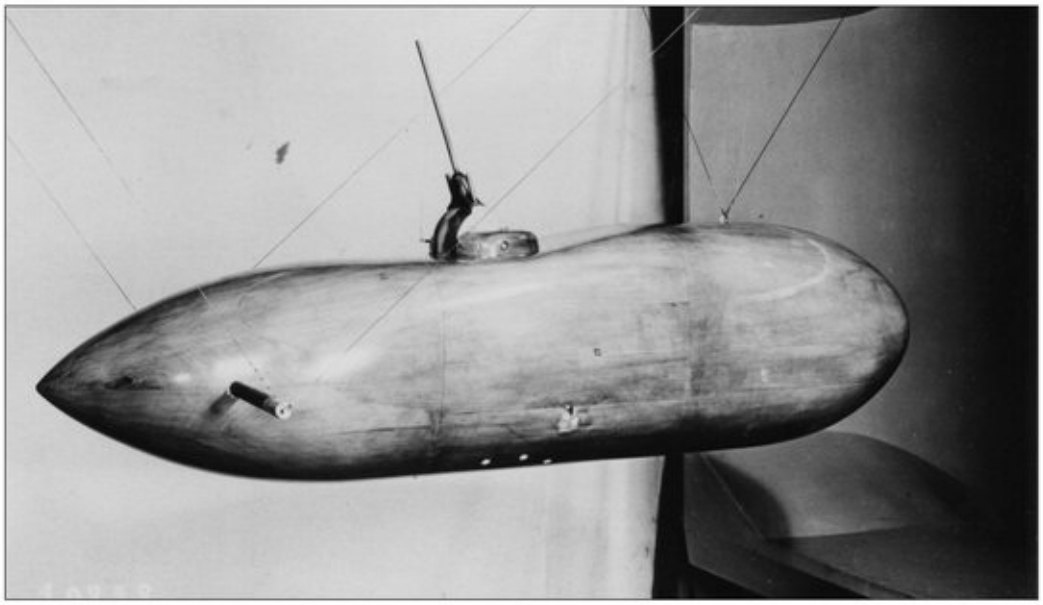
The wooden mock-up of the Focke-Wulf 'Flitzer', a type which was influential in European fighter aircraft development after the war. (Weber)





Free-falling trials of a full-size Me 262 fuselage (seen here under the wing of an Me 323
transport) were undertaken to establish its flight behaviour. (Radinger)

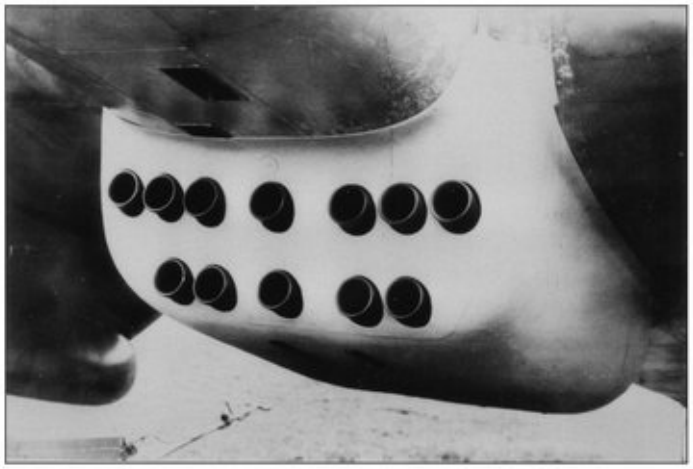
General der Jagdflieger Adolf Galland, during a visit at Leipheim, where many tests connected with jet fighter development took place. (Radinger)



New types of defensive armament or new weapons were tested using scale models.
Shown here is a mock-up of a remote-controlled MG 151. (Weber)

The Industrierat was headed by Generalfeldmarschall Erhard Milch and consisted of three Hauptausschüsse (main committees), which were responsible for airframes, engines and aircraft equipment. There were also a number so-called Sonderausschüsse (special committees), these being located at the factories of the various aircraft manufacturers and all other producers of new machines and ancillary equipment. Together with the relevant departments of the GLM, and the companies' own administrative measures, this system exerted a

considerable influence on the performance of the German aircraft industry as a whole.



Before being introduced, all items of equipment and weapons were built in small numbers for evaluation trials This is a battery of twelve RZ 65 rocket tubes mounted beneath an Me 110. (Radinger)

At the end of 1942 the RLM expanded the Generalluftzeugmeister's department still further with the addition of the 'Forschungsführung' (Research Control) office. By this time the looming defeat at Stalingrad and the beginning of the Wehrmacht's retreat on all fronts, together with the Western Allies' enormous production capacity and consequent growing aerial might, meant that the Luftwaffe's fortunes were waning rapidly. Early in 1944 another new department was brought into being. This was the 'Amt zur besonderen Verwendung' (Amt z.b.V.: Special Purposes Department), whose function, as its title implies, was the development and evaluation of special projects. In conjunction with the Forschungsführung (normally abbreviated to FoFü), the Amt z.b.V. was responsible for special-attack planes and manned suicide aircraft, designs for which had begun to proliferate during the winter of 1943 – 44.

A lot of time was spent developing remote-controlled weapons like the PC 1400 X,
also called 'Fritz X'. ***(Creek)***

The deteriorating situation in the first half of 1944 led to urgent demands from the Oberkommando der Luftwaffe (OKL: Luftwaffe High Command) for the GL's department to be completely reorganized. This resulted on 31 July 1944 in the latter's restructuring as the office of the Chef Technische Luftrüstung (Chef TLR: Director of Technical Air Armament). Henceforth all matters relating to the development and evaluation of new aircraft and equipment would come under the direct control of the OKL, together with the Führungshauptamt (Main Operations Department), the Generalquartiermeister (Quartermaster-General) and the five so-called 'Weapons Generals' (General der Jagdflieger, General der Kampfflieger, etc.). This new, slimmed down organization was designed to produce substantial savings in time and manpower. But it was also tasked with other duties, not least to bring about an increase in fuel production, both for the development programmes and, far more importantly, for the Luftwaffe's front-line units.

The new Chef TLR's office incorporated a 'Flugzeugentwicklung' (Aircraft Development) department. Headed by its own staff, and with its own military counter-intelligence section, this department comprised ten separate groups. Most of these had been taken over direct from the erstwhile

Generalluftzeugmeister's organization, but in the process revised working practices were introduced, intended both to expedite decision-making and to save on manpower. The department's ten groups (E1 was not established) were as follows:

E2	Zellen	Airframes
E3	Triebwerke	Engines
E4	Nachrichten/Navigationsgeräte	Signals and Navigation Equipment
E5	Ausrüstung	General Equipment
E6	Schusswaffen	Guns
E7	Abwurfwaffen	Bombs
E8	Bodengeräte	Ground Equipment
E9	LT/Sondergeräte	Aerial Torpedoes and Special Equipment
E10	Werkstoffe	Materials

From 1943 there was a struggle between Reichsmarschall Göring and Reichsführer SS
Himmler to control aircraft development and production. ***(Rohrbach)***

SS-Obergruppenführer Hans Kammler, who disappeared during the closing days of the war,
had considerable influence over the development of modern weapons in the Third Reich.

(Gedenkstätte Quarz)

The Chef TLR's department remained in Berlin until the closing weeks of the war when its surviving sub-groups were transferred to the Bavarian Alps.

It is undeniable that the complex nature of the organizations governing the development of German aircraft, and the numerous changes made to these bodies within the space of less than ten years, had a serious effect on the manufacturing processes as a whole. But an even greater problem was the unrealistic production targets set by both the RLM and the OKL, which failed entirely to take into account the capacity and materials available to the manufacturers. These factors – plus the failure to concentrate output on a limited number of suitable designs and instead produce a wide range of 'one-off' projects – meant that the front-line Luftwaffe was not supplied with the aircraft it needed to retain air superiority beyond 1941. True, the RLM did continue its

efforts to introduce new types into service after that date. A number of promising, not to say revolutionary designs were developed by German manufacturers and evaluated at one or more of the test centres operated by the RLM both in Germany and abroad. But by that time it was all too little too late.

3

Germany's Test Centres

In 1941 Ernst Udet's office as Generalluftzeugmeister (GLZ) was expanded. Among the departments it now controlled was the Technisches Amt (GL/LC), to which was subordinated the Kommando der Erprobungsstellen (KdE: Test Centre Command). These test centres played an important role in the development of new German aircraft and equipment. Some were small specialized establishments. The facility at Dorpat in Estonia, for example, carried out cold weather trials under harsh winter conditions, while hot weather tests were conducted at Castel Benito in Libya. The site at Münster-Nord undertook trials with poison-gas weapons. But by far the greater part of all test and evaluation activity took place at the major Luftwaffe E-Stellen, the most important of which was situated at Waren, on the shores of Lake Müritz, to the north of Berlin.

E-Stelle Rechlin

In June 1917 it was decided to build a modern flight centre, called Flieger-Versuchs- und Lehranstalt (FVLA: Aviation Experimental and Test Institute) in Mecklenburg. But Germany's defeat in the First World War meant the first attempts were not carried out until the end of 1918. In 1927 the aircraft manufacturer Albatros Flugzeugwerke rented the ground and began erecting the first two of three large hangars, though the third hangar was not completed until after 1933. In 1931 the Reichsverband der Deutschen Luftfahrtindustrie (RDL: Reich Association of the German Aviation Industry) took over the Albatros works. It also managed a few development sites at Staaken near Berlin and at Rechlin, as well as a few other places in Germany. Both major sites grew in size and the number of test flights increased. As it grew, the E-Stelle Rechlin incorporated an airfield at Rechlin along the shores of Lake Müritz, another one near Roggenthin, and a third one at Lärz.

Nearly all important German aircraft were evaluated at one of the airfields

mentioned above. Additionally, various captured enemy planes found their way to Rechlin. The E-Stelle was also equipped to test advanced jet engines and jet aircraft when these began to be introduced. On 25 August 1944 E-Stelle Rechlin was severely hit by American bombers, destroying major parts of the facility. The final objects of evaluation were the Ar 234, Me 163, Me 262 and He 162. Early in April 1945 the E-Stelle was dismantled and partly transferred to Bavaria, with first sections arriving at Lechfeld on 7 April 1945.

E-Stelle Travemünde

This site was used for testing seaplanes. One of Germany's minor aircraft manufacturers, the Caspar Flugzeugbau AG, was based on the Priwall, a small promontory at the mouth of the River Trave, east of Lübeck on the Baltic coast. Late in 1926 this site was extended to accommodate a large airfield, plus a seaplane base suitable for the development of all kinds of floatplanes and flying boats. Some of the first seaplanes to enter service, including the He 59 and He 60, underwent trials at Travemünde. Because of the floating dock available there, huge flying boats such as the Do X were sometimes present at Travemünde. Military evaluation of various modern flying boats like the Do 18, 24 and 26 was also undertaken there; and of the new and very important designs of Blohm & Voss, the BV 222 at least was evaluated there. Furthermore, several other land-borne maritime combat aircraft and helicopters were flown from Travemünde over the Baltic Sea. On 5 May 1945 the undamaged E-Stelle was surrendered to advancing British ground units.

E-Stelle Tarnewitz

The armaments testing facility at Tarnewitz, an artificial peninsula situated on the Baltic coast between Lübeck and Wismar, was established in 1935. Because of the excellent natural firing ranges between Tarnewitz and the offshore Poel Island, this E-Stelle quickly gained great importance in the testing of all kinds of aircraft armament. Nearly all guns, together with all kinds of ammunition being developed were sent to Tarnewitz and tested on special stands and under war conditions. Up to 1939 various combat planes were evaluated at Tarnewitz, with their fixed and moveable machine-gun installations, simultaneously being tested under realistic conditions. Additionally, trials with different types of Sonderbewaffnung (special armament), for example all Rauchzylinder (smoke cylinders – 65 mm to 1,000 mm rockets) and Sondergeräte (special devices) were carried out, with these being installed in Bf 109, Bf 110 and Ju 88 aircraft.

The E-Stelle was also responsible for testing many gunsights, both German ones and captured examples. Until March 1945 many different heavy gun systems up to 75 mm calibre, capable of destroying both armoured ground targets and aircraft, were also tested. Evaluations of the armament of new point-defence fighters, such as the Ba 349 Natter and He P 1077 Julia, were among the last tasks undertaken. The facilities at Tarnewitz were captured nearly intact on 2 May 1945 when Allied soldiers arrived on the peninsula.

Luftwaffe Versuchsstelle/E-Stelle Peenemünde-West

Initially known as the Versuchsstelle (V-Stelle: Experimental Centre) Peenemünde-West, this modern Luftwaffe test facility was established close to the Heeresversuchsanstalt (HVA: Army Experimental Institute) on Usedom Island on the Baltic coast to the north-west of Stettin. It was later upgraded and redesignated to become a fully-fledged Erprobungsstelle. Aircraft capable of carrying air-to-air and air-to-ground weapons as well as all kinds of offensive missile systems were tested by department E2 at Peenemünde. Department E3 was responsible for powerplants and solving all questions relating to the use of aircraft fuel; specialists of E4 worked intensively on radio and remote-controlled weapons. Tests with rocket-assisted take-off (RATO) systems, with PC 1400 X bombs and X-4 anti aircraft and X-7 anti-tank missiles were carried out from 1944 onwards. The E-stelle was a centre for rocket-propelled aircraft evaluation, especially for the Me 163 and Me 263. It was reported that the OKL was especially interested in the BV 143 and BV 246 automatically controlled missile systems, and the complete spectrum of glide-bombs and anti-aircraft missiles constructed by Henschel, such as the Schmetterling (Butterfly), and also Messerschmitt's Enzian. The E-stelle ceased to exist on 7 May 1945 when a contingent of Scottish solders occupied the region.

E-Stelle Udet-Feld

At Udet-Feld in Upper Silesia all kind of bombs were evaluated together with different detonators, but also Abwurfbehälter (jettisonable munitions/stores containers), Bomben-schüttbehälter (fragmentation bomblet containers) and incendiary bombs. The E-Stelle was closed after the arrival of Soviet troops in January 1945.

E-Stelle Werneuchen

The technically well-equipped airbase of Werneuchen, situated east of Berlin,

was responsible for testing of all kinds of radio and radar systems assisted by the Flugfunk-forschungsanstalt (Air Radio Research Institute) at Oberpfaffenhofen (FFO). Beside the practical development of various modern systems, the evaluation of airborne radar types from FuG 212 to 220 was done. Finally the first two-seat Me 262 B night-fighters fitted with Jumo 004 B engines were tested at Werneuchen into early 1945. Due to the fast Soviet advance, the OKL was forced to withdraw the complete E-Stelle to Stade in northern Germany, where it was captured by British forces during the closing days of the war. A camouflaged V1 and an incomplete Ju 248 fuselage were found by British specialists.

4

Experimental, Test and Trials Units

The flight-testing and evaluation of pre-and early series production aircraft was undertaken by specialized Erprobungskommandos (Test detachments) or Erprobungsstaffeln (Test squadrons). Manned by Luftwaffe personnel, these units were responsible not only for the testing of aircraft under operational conditions, but also for conducting trials to establish their optimum tactical employment. The most important of these units were:

Versuchsverband OKL

(Experimental unit of the OKL; previously the Versuchsverband Ob.d.L.), which was composed of three Staffeln. The first of these, 1./Vers.Verb.OKL – the so-called Einsatzstaffel (Operational Squadron) – in turn controlled a number of smaller detachments, such as, at one stage, the Kommandos Götz, Sommer and Sperling and the Kommando Braunegg, the former trio operating Ar 234 jet aircraft and the latter equipped with Me 262 reconnaissance machines. The second Staffel – officially 2./Vers.Verb.OKL, but more commonly referred to as the Zirkus Rosarius – tested (and demonstrated) captured enemy aircraft, while the third, 3./Vers.Verb.OKL, served as the Einflugstaffel (literally flying-in squadron) and flight tested new designs for the OKL. The Versuchsverband's main operating base during 1942 – 45 was Oranienburg-Wilhelminenhof.

Erprobungskommando 4

This unit was set up on 1 December 1944 and equipped with around ten single-engine fighter aircraft, mainly Fw 190 As. It was meant to conduct trials with the new X-4 air-to-air missiles but because of technical problems these made no progress until early 1945 – the guidance and propulsion system did not work properly and this prevented any combat trials.

Erprobungskommando 16

This unit was founded on 1 April 1942 at Peenemünde-West to test the remote-controlled Hs 293 glide bombs first carried by He 111 bombers.

Lehr-und Versuchskommando 16

This unit was situated at Peenemünde-West early in 1942 and settled at Zwischenahn on 1 September 1943 testing the rocket-propelled Me 163 B point-defence fighters. In October 1944 it was transferred to Brandis near Leipzig and dissolved on 14 February 1945. Some further tests were carried out by JG 400 in the following weeks.

Erprobungskommando 17

This unit (also known as Erprobungskommando XY[1]) operated in France from early 1942. It was formed from 2./KG 100 (at Hannover since November 1941) and became 15./KG 6 in September 1942. Finally the OKL decided to give the unit a new designation: Erprobungskommando 100.

Erprobungskommando 18

This unit was formed at Pillau on the Baltic Sea on 1 August 1942 to evaluate aircraft suitable for the first German aircraft carrier, the *Graf Zeppelin*, which was never completed. Therefore it was disbanded during the winter of 1942/43. All aircraft were given to training units with the exception of the Stukas.

Erprobungskommando 19

This unit was set up on 1 July 1942 at Castel Benito in order to test single-engined fighter aircraft under tropical conditions.

Lehr-und Erprobungskommando 20

This unit was established at Travemünde on 1 October 1942. After a few trials with STOL (short take-off and landing) aircraft it was disbanded.

Lehr-und Erprobungskommando 21

This unit was established to test the operational use of PC 1400 X remote-controlled air-to-surface weapons on 1 August 1942 at Garz on Usedom Island.

Lehr-und Erprobungskommando 22

This unit was formed at Lärz near Rechlin to evaluate the tactical advantages of fast single-engine fighter-bombers.

Erprobungskommando 24

This unit existed between 1 March 1943 and 14 October 1944 at Mark Zwuschen, south of Jüterbog. All kinds of reconnaissance and high-altitude planes were evaluated there.

Erprobungskommando 25

This unit was established on 22 April 1943 and was based at Wittmund, Achmer and finally at Parchim. Testing of all kinds of Werfer-Granaten (rocket launchers), such as the WGr. 42, and vertical firing air-to-ground weapons took place there. In June 1944 it was re-designated into Jagdgruppe (JGr.) 10, which was used as part of the Reichsverteidigung (Defence of the Reich) organization.

Erprobungskommando 26

This unit was based at Udet-Feld between 29 December 1943 and 14 February 1945, where it was engaged in testing anti-tank weapons installed in German close-air-support types.

Lehr-und Erprobungskommando 36

This unit was also based at Garz on Usedom Island and existed between 10 August 1943 and 12 July 1944. Attempts were made to evaluate the service suitability of new variants of Hs 293 and 294 glide bombs and to train new personnel.

Erprobungskommando 40 (Forstschutz)

This unit was established on 1 January 1944 and disbanded on 3 September 1944. Equipped mainly with Do 23 and Fw 58 aircraft, this unit was engaged primarily in aerial spray trials for forestry protection (Forstschutz) and conservation purposes.

Erprobungskommando 41 (Forstschutz)

This unit came into being on 22 January 1945 in order to take over the duties of the dissolved Erpbungskommando 40. Probably due to the course of war, no

activities were reported.

5

Test Detachments and Squadrons

The following units were set up by the Oberkommando der Luftwaffe (OKL), the majority upon the instigation of the Generalquartiermeister (Quartermaster-General), for the express purpose of evaluating the flight characteristics and establishing the tactical suitability of all new and advanced aircraft prior to their delivery to front-line Luftwaffe units. Most of these small Kommandos or Staffeln were responsible for a specific type, whose numerical designation was included in the unit's title. The list given below, however, may not be complete. It is believed that other Ekdos were formed, but documentation confirming their existence has not yet come to light.

Erprobungskommando 152

This unit was established at Rechlin on 2 November 1944 to test the Ta 152. The unit was later incorporated into the Stabsstaffel (HQ Squadron) of JG 301, where further but limited tactical evaluation continued until early 1945.

Erprobungskommando 154

This unit was set up at Hannover-Langenhagen on 9 December 1943 to conduct trials with the all-wooden Ta 154 to test its viability as a night-fighter. The unit was later incorporated into Erprobungskommando 262 (see below), which used a few Ta 154s as conversion trainers.

Erprobungskommando 162

This unit was set up by the OKL on 10 January 1945 at Rechlin and ended service at the end of April 1945 at Lechfeld when American ground forces captured the Bavarian base. Only a few He 162 prototypes and series aircraft escaped to the Munich region, where they were when the war ended some days later.

Erprobungsstaffel 177

This unit was set up by the OKL on 1 February 1942 at Rechlin-Lärz and was disbanded on 20 September 1943. Later, material and personnel from the site were divided between I/FKG 50 and IV (Ergänzung)/KG 40.

Erprobungsstaffel 188

This unit was formed at Rechlin and in June 1943 was transferred to Vannes. In November it became the new 4./KG 66, operating with Ju 188 bombers from bases in France in 1944.

Erprobungsstaffel 210

This unit was established at Lechfeld with Me 210s, sent to Rechlin and later operated from Evreux. It became Erprobungsstaffel 410 on 11 May 1943.

Erprobungskomando 234

This unit was founded at Rechlin-Lärz on 1 July 1944 as Erprobungskommando Lärz (EKL) and received the first Ar 234 B-0 series aircraft. From 31 October 1944 the evaluation flights continued at Burg near Magdeburg under the command of III/KG 76.

Erprobungskommando 262

This unit was activated at Lechfeld on 9 December 1943. Initially composed of just a Stab (HQ Flight) and also known as Kommando Thierfelder, it was later (May 1944) reinforced by further personnel from III/ZG 26 before being redesignated III/EJG 2 in October 1944. Its remaining aircraft were incorporated into JV 44 during the closing weeks of the war.

Erprobungskommando 335

This unit was set up at Mengen on 4 September 1944 to undertake tactical evaluation of the Do 335. Despite twice being halted, trials continued at Rechlin until the unit’s final disbandment on 15 April 1945.

Erprobungskommando 388

This unit was founded at Rechlin on 15 July 1944 and was disbanded by OKL on 14 February 1945 after the development of all variants of Ju 388 was terminated

due to the course of war.

Erprobungsstaffel 410

This unit, the former EK 210, ceased to exist in May 1943, after its duties were taken over by a Schnellkampfstaffel (fast bomber squadron), equipped with Me 410s.

Erprobungskommando 600

This unit (also known as Erprobungskommando N) was formed on 1 April 1945. Its main objective was the military evaluation of the Ba 349 A-1 and B-1 point-defence rocket aircraft.

Erprobungskommando ‘Kolb’

This unit was established on 20 November 1944 at Fürstenfeldbruck to evaluate the MG 151 – Drilling, a triple heavy machine gun for anti-aircraft duties.

Erprobungskommando ‘Nebel’

This unit was situated at Offingen from 26 July 1944 to support the development and production of Me 264 prototypes. After the loss of the sole Me 264 (V1) the unit was nominated to take over new tasks, possibly including the development of the Do 635 Einfachlösung (‘Simple Solution’), a simplified three-seat long-range reconnaissance aircraft which was urgently demanded by the OKL.

6

General Aviation Research

The Wissenschaftliche Gesellschaft für Luftfahrt (WGL: Scientific Society for Aviation), an information and advisory body that worked closely with the Reichsverband der deutschen Luftfahrtindustrie (Reich Association of the German Aircraft Industry), the Deutscher Luftrat (German Air Council) and a number of other research institutes, was concerned with general aviation research in the Reich. It also compiled numerous reports on research activities, making its findings available to the relevant engineers and scientists working on specific projects in the same fields. In addition to this, the Deutsche Akademie für Luftfahrtforschung (German Academy of Aviation Research), the renowned Lilienthal-Gesellschaft für Luftfahrtforschung (Lilienthal Society of Aviation Research) and numerous other research facilities were also engaged either in basic research or in seeking solutions to the many problems arising prior to, or during the development of particular aircraft or items of ground equipment. Among the most important of these other research establishments were:

AVA: Aerodynamic Experimental Institute

DVL: German Experimental Institute of Aviation

DFS: German Research Institute for Unpowered Flight

LFA: Aviation Research Institute – Munich

LFA: Aviation Research Institute – Brunswick

LFA: Aviation Research Institute – Stuttgart

Aviation Research Vienna

The Forschungsführung

(FoFü: Research Control Office) The FoFü was officially established on 30 June 1942 by the Reichsminister für Luftfahrt (Reich Minister of Aviation), in conjunction with the Oberkommando der Luftwaffe, to oversee the work of the various research facilities (see above) and all manufacturers engaged in the development and production of the Reich's new and increasingly advanced combat aircraft. From the late summer of 1942 the FoFü was thus to play an important role in the field of German aviation research by controlling and coordinating the work of all the hitherto largely separate test institutes and research establishments.

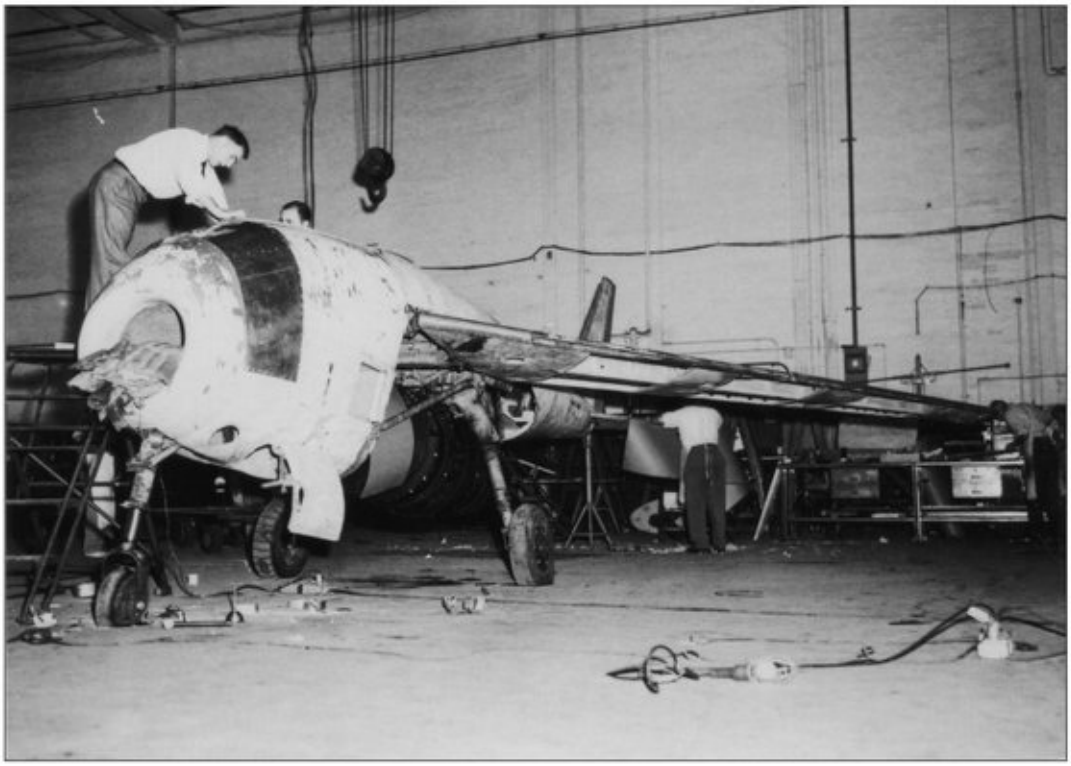
7

Development Projects in 1945

Despite the imminent collapse of the German Reich, a number of development and design bureaux, supported by those research establishments still in operation, continued working on various projects well into 1945. The following list, setting out all the major development work on aircraft, helicopters and guided weapons still ongoing at the war's end, was compiled for the Allied authorities in September 1945 by Professor Dr.-Ing. Günther Bock, erstwhile head of the Deutsche Versuchsanstalt für Luftfahrt:

Arado	Further development of Ar 234, C and D series
	Project development of an all-weather night-fighter aircraft
Bachem	Further development of Ba 349 B series
Blohm & Voss	Further development of BV 155 high altitude fighter
	Project development of an all-weather night-fighter aircraft
Dornier	Further development of Do 335 to 635 Einfachlösung
	Project development of an all-weather night-fighter aircraft
Focke-Achgelis	Project development of a heavy helicopter with an increased loading capacity
Focke-Wulf	Further development of Fw 190 and Ta 152 series
	Project development of Ta 183 single-jet fighter
	Project development of an all-weather night-fighter aircraft

	Studies concerning an advanced helicopter
Heinkel	Further development of He 162 equipped with HeS 11
	Development of Julia light point-defence fighter
	Development of an advanced single-jet fighter
	Layout of an experimental helicopter
Henschel	Further development of Hs 132 single-jet bomber
Horten and Gotha	Development of a heavy twin-jet fighter and bomber
Junkers	Further development of Ju 287 heavy jet-bomber
	Further development of Me 263 point-defence fighter and construction of an advanced rocket fighter aircraft
	Further development of Ju EF 126 low-level attack fighter
	Design studies of Ju EF 130 long-range flying wing
Messerschmitt	Further development of the Me P 1101 jet-fighter
	Design studies of a long-range bomber aircraft
Siebel	Further development of DFS 346 supersonic experimental aircraft



During the last month of the Second World War, as Allied forces occupied most regions of
Germany, development of modern aircraft continued in underground factories like this one
situated at Oberammergau, where an Me P 1101 is shown. ***(Radinger)***

The information supplied by Professor Bock was no doubt of great interest to the Western Allies, despite the fact that the vast majority of the Third Reich's *Wunderwaffen* (wonder weapons) had still been a long way from becoming reality. Most projects had suffered from a chronic lack of material resources and had been beset by a host of technical problems. To give just one example: the production and delivery of second-generation jet engines was not scheduled to begin until the summer of 1945. This would in turn have delayed the introduction of any advanced combat aircraft until the second half of that year – by which time all remaining fuel stocks would have been exhausted! With the German high command reduced to thinking in terms of horse-drawn units rather than heavy tanks, and the Luftwaffe having to resort to oxen to tow aircraft around airfields in order to save precious fuel, there was simply no chance whatsoever of the Luftwaffe's front-line units even being able to continue flying operations, let alone regain air superiority.

8

Aircraft Prototypes

Although a large number of prototypes and experimental machines were produced by Germany's aircraft manufacturers between late 1929 and the spring of 1945, the majority of their proposals failed to see the light of day. Perhaps a wind-tunnel model or a full-scale wooden mock-up would be constructed, but that was all. The Reichswehrministerium, later the Reichsluftfahrtministerium, nonetheless continued to encourage research into new designs. It should be reiterated at this point that not all of the following data have been gleaned from official documents. This is for a variety of reasons. Firstly, it was customary to destroy documents relating to types that did not prove successful and which were scrapped after only a few test flights. Secondly, many of the files containing official data on older designs were destroyed by enemy action during the course of the war, although examples of the machines themselves may have survived the conflict. Moreover, much of the material that was surrendered to, or captured by, advancing Allied ground forces has since become buried without trace in various national archives. And, sadly, over the last 65-plus years many documents have gone missing from official collections, or have been lost in fires, floods and other natural disasters. In the case of a small number of the aircraft types itemized below – mainly training and light sports machines – the only details available have been found in previously published literature. In view of this, the author hopes that readers in possession of reliable, primary-source information on such things as missing *Stammkennzeichen* (four-letter codes) and serial numbers will contact him.

The Ar 64 V1 biplane fighter was tested at Warnemünde near Rostock.

(Deutsche Lufthansa)

8.1 Arado

Ar 64

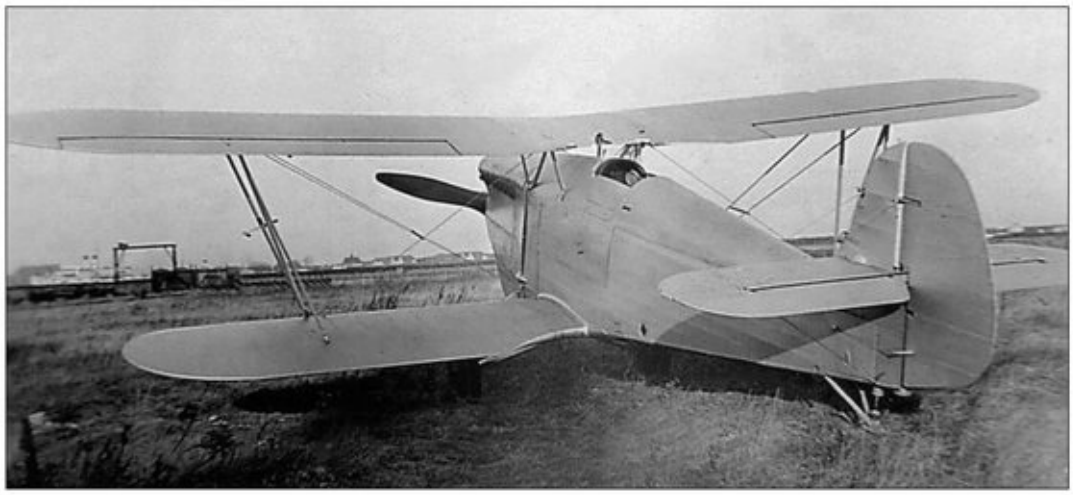
The Ar 64 biplane fighter was developed by Arado at its Warnemünde works near Rostock by Wilhelm Rethel, one of Arado's best designers. It was first tested near Rostock and later at Staaken. Two of the prototype aircraft built were also evaluated at Lipezk in Russia, Germany's most secret test centre.

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Ar 64a (V1)	D-2470 D-DIAN	065	Flight development with one Sh 22 B radial fitted	Early 1929	Unknown
Ar 64b (V2)	Unknown	Unknown	Flight development with one Jupiter VI engine	1930	Unknown
Ar 64c (V3)	Unknown	Unknown	Flight development with improved equipment and revised fuselage	1931	Unknown
Ar 64d (V4)	D-1039	Unknown	Tactical flight development	1931	Unknown
Ar 64e (V4)	Unknown	070	Flight development with new spatted undercarriage	1931/32	Unknown

Ar 65

The Ar 65 was also developed by Wilhelm Rethel and was first flown in 1931 from Arado's own airfield near Rostock. Only six prototypes were built, followed by a batch of series aircraft handed over to JG 132 of the new Luftwaffe fighter force early in the 1930s. It was also tested by the RDL from the end of 1931.

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Ar 65a (V1)	D-2218 D-IRIF	071	Flight development with one BMW VI 7.3 installed	1931	Unknown
Ar 65b (V2)	D-2514 D-IGIL	077	Flight development with reduced wing-span	1931	Unknown
Ar 65c to f (V3 to V6)	Unknown	Unknown	Evaluation of revised aircraft equipment	1931/32	Unknown



The Ar 65a, seen without markings, was first flown at Warnemünde. In the late 1920s and early 1930s prototypes were designated 'a', 'b', 'c' etc., these later being replaced by the more familiar 'V1, 'V2', 'V3' system. ***(Nowarra)***

Ar 66

The two-seat Ar 66 training biplane was designed and developed by Walter Blume simultaneously for both land and maritime use. After six prototypes were built, it entered series production on a significant scale from around 1935. The first aircraft were tested at Rostock-Marienehe by Arado pilots. The first aircraft,

formerly used by the RDL, was also evaluated at Rechlin from November 1935.

The Ar 66d training aircraft was tested at Berlin-Staaken. The fourth prototype (V4) is shown here. ***(Griehl)***

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Ar 66a (V1)	D-2335 D-IHAV	078	Flight development with different wing-span and As 10 C in-line engine	1932	Unknown
Ar 66b (V2)	D-2557 D-IJAX	100	Series development with As 10 C	1934	Unknown
Ar 66c (V3)	D-2559 D-ITUV	113	Pre-series development	1934	Unknown
Ar 66d (V4)	D-IDAR	Unknown	Pre-series development	Unknown	Unknown
Ar 66e (V5)	D-IHIV	Unknown	Pre-series conversion with floats under the fuselage	1935	Unknown

Ar 67

Walter Blume was responsible for the design of this single-seat biplane fighter aircraft intended for the new Luftwaffe’s day-fighter units. A single aircraft was tested at Warnemünde and later by the DVL at Staaken near Berlin. Due to its poor performance the second prototype was never finished.

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Ar 67a (V1)	D-IBIK	080	Flight development using a Rolls-Royce Kestrel engine	01.07.33	Unknown
Ar 67b (V2)	Unknown	Unknown	Probably not completed	—	Parts scrapped

The Ar 67a (V1) was propelled by a Rolls-Royce Kestrel in-line engine due to the lack of powerful German alternatives. ***(Lange)***

Ar 68

The Ar 68 single-seat biplane fighter was based on the design of the Ar 67. Only four prototypes were built. The Ar 68 was developed by Walter Blume and Wilhelm Rethel in co-operation and initially flown at Rostock and later at Staaken. The first prototypes were followed by a G series prototype fitted with a BMW VI in-line engine and an H-series prototype equipped with an BMW 132 radial.

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Ar 68a (V1)	D-IKIN	099	General flight development with one BMW VId	16.12.33	Unknown
Ar 68b (V2)	D-IVUS	144	Flight development using Jumo 10 (210A) in-line engine	July 1935	Unknown
Ar 68c V3	D-IBAS	152	Flight development with Jumo 10 (210A) installed	Oct. 1935	Unknown
Ar 68d V4	D-ITAR	Unknown	Flight development	Unknown	Unknown
Ar 68e V5	D-ITAR	Unknown	Pre-series a/c of E-0	Unknown	Unknown

The Ar 68 H prototype with BMW 132 radial engine. ***(Radinger)***

Ar 69

The Ar 69 was created by Walter Blume at Rostock. Only two prototypes were completed and evaluated. Due to the better performance of the Fw 44 and He 72, the Arado design only saw very limited use from the mid-1930s.

The Ar 69 V1 training aircraft was fitted with an Argus As 8 B in-line engine. ***(Wachtl)***

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Ar 69a V1 (A)	D-2821	115	Flight development with As 8 B in-line engine	Jan. 1934	Unknown
Ar 68b V2 (B)	D-EPYT	Unknown	Flight development with Sh 14 A radial engine	Sept. 1934	Unknown

Ar 76

The Ar 76, known as the Heimatschützer, was intended to be one of Germany's first home-defence fighters. It was developed by Walter Blume. The prototypes could be armed with a single MG 17. It did not fulfill the demands of the RLM and was later handed over to one of the several training units then existing. Limited series production followed.

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Ar 76a (V1)	D-IBET	363	Flight development with As 10 C in-line engine	Apr. 1934	Unknown
Ar 76 V2	D-IRAS	364	Flight development with improved equipment and As 10 C fitted	1934	Unknown
Ar 76 V3	D-EFAT	365	General flight development	1935	Unknown
Ar 76 V4	D-ISAQ	698	Flight development as pre-series training a/c	July 1935	Unknown

Ar 76 V2, a single-seat advanced training aircraft and home-defence fighter, could be equipped with one fixed MG 17 machine gun. ***(Wachtl)***

Ar 77

In competition with the Fw 58 Weihe, Walter Blume designed his Ar 77 which was proposed as both a small civil airliner and an armed military four-seat training aircraft Of three prototypes ordered, only two were completed; one was later used by a Luftwaffe training unit.

The Ar 77 had both a civil and a military variant, but lost the design competition with the Fw 58 Weihe. (Deutsche Lufthansa)

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Ar 77 V1	D-ABIM	845	Flight development using two As 10 C engines as training a/c	10.12.34	Unknown
Ar 77 V2	D-AJAZ	846	Flight development	06.12.35	Unknown
Ar 77 V3	—	847	Not completed	—	Scrapped

Ar 79

The Ar 79 was a two-seat training aircraft but was also intended to see civil service. The aircraft was designed by Walter Blume and Wilhelm Rethel and eventually reached series production at the Arado works. From 1940 four were used by E-Stelle Rechlin for communication duties.

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Ar 79 V1	D-EKCX	974	Flight development with HM 504 A-2 engine	20.04.38	Unknown
Ar 79 V2	D-EHCR	875	Flight development and attempts at flight records	Late 1938	Unknown
Ar 79 V3	D-EDOG	876	Flight development with HM 504 A-2 installed	Unknown	Used by Flugzeug-führerschule 12

Ar 79 V1 was powered by a Hirth HM 504 A-2 and took part in one of the Deutschland-Flüge (annual round-Germany air rallies). (Deutsche Lufthansa)

Ar 80

This single-seat aircraft became the first all-metal monoplane constructed by Walter Blume and Wilhelm Rethel. Only five prototypes were built and evaluated at Rostock, one of them fitted with a powerful British Rolls-Royce Kestrel in-line engine. Due to the better performance of Messerschmitt's Bf 109 fighter, there was no possibility of a series contract.

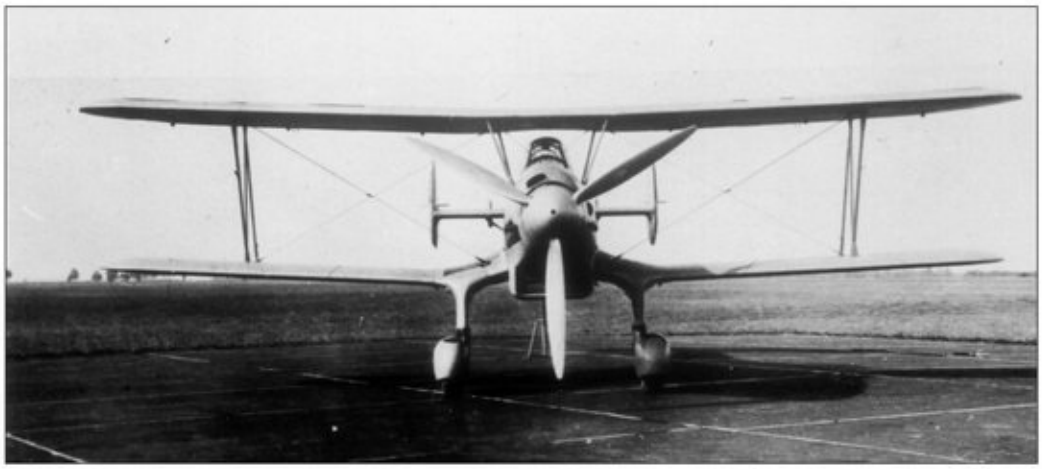
Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Ar 80 V1	D-IRLI	Unknown	Flight development with Rolls-Royce Kestrel	26.07.35	Crashed
Ar 80 V2	D-ILOH	Unknown	Flight development, finally with a Jumo 10 (210 C)	Unknown	Unknown
Ar 80 V3	D-IROK	Unknown	Flight development with engine-mounted cannon	July 1937	Finally used by DVL
Ar 80 V4	D-IMEN	Unknown	General flight development	Unknown	Unknown
Ar 80 V5	D-IPBN	1297	Flown with new Fowler flaps new wings and a second seat (ex Ar 80 V3)	06.11.39	Unknown

Because the Bf 109 was introduced by the Luftwaffe, only a few Ar 80s were built. The V2 example shown was flown with a Jumo 210 C engine. ***(Nowarra)***

Ar 81

Although it achieved a dive performance of more than 600 km/h, Walter Blume's Ar 81 two-seat biplane dive-bomber could not compete with the early Ju 87 prototypes simultaneously developed by Junkers. Its weaker overall performance data and flight behaviour meant that series production never took place.

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Ar 81 V1	D-UJOX	901	Flight development with Jumo 10 (210)	May 1936	Unknown
Ar 81 V2	D-UPAR	902	Flight development	1936	Unknown
Ar 81 V3	D-UDEX	903	New single fin and revised fuselage	Unknown	Unknown



The Ar 81 dive-bomber was cancelled because of the superior performance of the
Ju 87 A. Shown here is one of the twin-fin machines. ***(Nowarra)***

The Ar 95 showed good flight behaviour but was not introduced, again because of the
better performance of the Ju 87 A-1. ***(IHK Köln)***

Ar 95

Arado's Ar 95 biplane floatplane met a similar fate to the Ar 81. It was proposed and developed by Walter Blume in 1936 and 1937. After building five

prototypes Arado made an Ar 95 pre-series aircraft, designated A-0, and a first advanced series variant, the Ar 95 A-1, which saw action over the Black Sea until about 1941.

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Ar 95 V1	D-OHEO	946	Flight development with Jumo 10 (210) in-line engine	08.02.37	Unknown
Ar 95 V2	D-OLUO	947	Flight development with SAM 22 B radial, later with Jumo 210 in-line engine	Mar. 1937	Unknown
Ar 95 V3	D-ODGY	948	Flight development with SAM 322 B radial	1937	Unknown
Ar 95 V4	Unknown	Unknown	Flight development with a wheeled undercarriage	1937	Unknown
Ar 95 V5	D-OHGV	Unknown	Flight development with two separate floats	1937/38	Unknown

The Ar 95 V1 (D-OHEO) was fitted with twin floats to compete with the Heinkel seaplane designs. ***(IHK Köln)***

Ar 96

The Ar 96 was designed by the Arado team of Blume, Fröhlich, Reinhard and Rethel, and later became the most-built Arado aircraft. Some 4,000 left the assembly lines of various builders by early 1945. This metal monoplane was

used by nearly all German flying schools and tactical training units of the Luftwaffe and by foreign air forces.

The Ar 96 was built in huge quantities. The first prototype, the V1, underwent several alterations before the design was ready for production. ***(Nowarra)***

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Ar 96 V1/I to Ar 96 V1/III	D-IRUU	2067	Flight development with retractable undercarriage under the outer wings and fitted with an As 10 C	12.02.37	Unknown
Ar 96 V2	D-IFHD	2068	Flight development with As 410 A in-line engine	1938	Unknown
Ar 96 V3	D-IGME	2069	Series development for Ar 96 A series, new wings	1938	Unknown
Ar 96 V4	D-IZIE	2070	Series development for Ar 96 A series	Unknown	Unknown
Ar 96 V5	D-INDQ	2071	Rebuilt Ar 96 V2, became the first Ar 96 B	Unknown	Unknown
Ar 96 V6	D-IWCY GJ+AL	2072	Rebuilt Ar 96 V3 to B standard, As 410 A-0	Unknown	Used by E-Stelle Rechlin
Ar 96 V7	D-IRUU	2073	Rebuilt Ar 96 V1, second a/c rebuilt to B standard	Unknown	Unknown
Ar 96 V8	Unknown	2074	Static tests		Unknown, scrapped
Ar 96 V9	D-IXWZ	2075	Fitted with an MG 15 in an open defensive position	Unknown	Unknown

Only a few Ar 96, such as the V9, were flown with a machine gun in a flexible mounting
installed behind the pilot's position. ***(Nowarra)***

Ar 195

The Ar 195 differed little from the Ar 95 multi-role aircraft, but was eventually developed to become a reliable maritime combat machine. It was powered by a single BMW 132 K radial engine. Owing to the introduction of faster monoplanes, the Ar 195 saw limited use.

The carrier-borne combat-reconnaissance Ar 195 V1 was an improved variant of the Ar 95,
but the design was rejected in favour of the Fieseler Fi 167. ***(Arado-Werksfoto)***

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Ar 195 V0	—		Static test-bed	1937	Scrapped
Ar 195 V1	D-OBDB TI+HY	2439	Flight development with BMW 132 K radial engine	Nov. 1937	Used by E-Stelle Travemünde

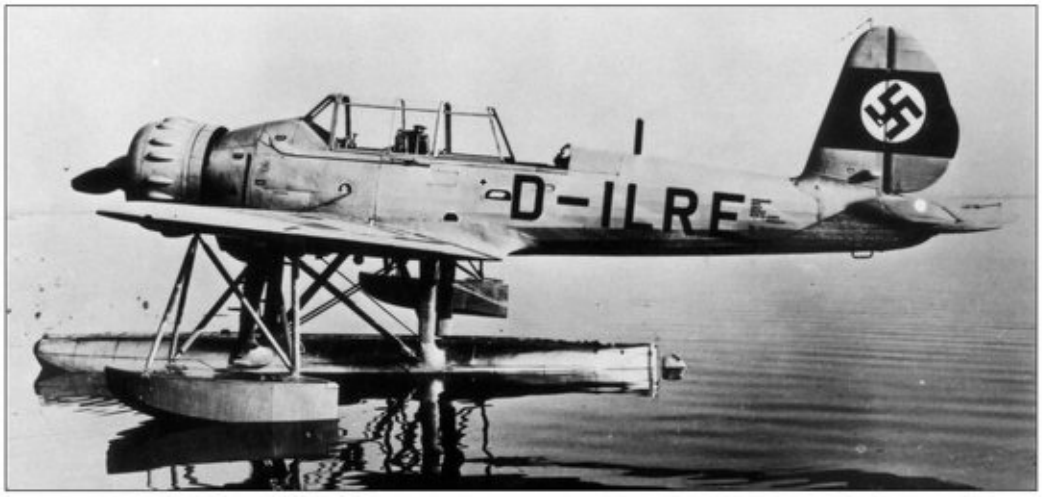
Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Ar 195 V2	D-OCLN TI+HZ	2440	Flight development	Unknown	Used by E-Stelle Travemünde
Ar 195 V3	D-ODSG TJ+HA	2441	Flight development	Unknown	Used by E-Stelle Travemünde

Two different layouts of the Ar 196 were tested. The first of these (Ar 196 V1, D-IEHK) was fitted with twin floats beneath the central fuselage. ***(Nowarra)***

Ar 196

There were six prototypes of the two-seat Ar 196 single-engine floatplane, and several more were taken from the production line and used for different evaluation tasks. During its operational career the aircraft was equipped with improved engines and wireless sets and armament. It was operated from on board battleships and from naval air bases.

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Ar 196 V1	D-IEHK	2589	Flight development with BMW 132 Dc radial, pre-evaluation of A series	June 1937	Unknown
Ar 196 V2	D-IHQI	2590	Flight development with BMW 132 Dc radial	Sept. 1937	Unknown
Ar 196 V3	D-ILRE	2591	Flight development with a central float, B series	Sept. 1937	Unknown
Ar 196 V4	D-OVMB	2592	Development with central float and armament of two MG FF, one MG 17 and underwing bombs	Unknown	Unknown
Ar 196 V5	D-IPDB	1960090	Enlarged fuel capacity, used as pre-series a/c	Unknown	Unknown
Ar 196 V6	Unknown	1860091	Enlarged floats and improved armament	Unknown	Unknown



The trials of the Ar 196 with single central float did not meet the requirements. Therefore only two such prototypes were built, one of which was the V3 shown. ***(Nowarra)***

Ar 197

The Ar 197, based on the design of Ar 195, was developed to become a Mehrzweck (‘multipurpose’) carrier combat aircraft, but its performance lagged seriously behind that of contemporary monoplanes. Despite its use of the BMW 132 radial engine there was no chance that the Ar 197 would achieve series production.

Initially intended as a carrier-borne combat aircraft, several Ar 197 prototypes were later handed over to Luftwaffe flying schools. V5, shown here, served with FFS A/B 10 at Neukuhren. ***(Müller)***

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Ar 197 V1	D-ITSE	2071	Flight development with DB 600 A in-line engine	Mar. 1937	Unknown
Ar 197 V2	D-ITZO GA+NO	2072	Flight development with BMW 132 K radial engine	Aug. 1937	Unknown
Ar 197 V3	D-IVLE TJ+HJ	2073	Development trials for carrier use, fitted with BMW 132 J	Jan. 1938	Used by E-Stelle See in Travemünde
Ar 197 V4	Unknown	2074	Used for static tests	—	Scrapped
Ar 197 V5	GA+NQ	2075	Tactical testing	Unknown	Used by FFS A/B 10 in Sept. 1941

The Ar 198 SV1, a single-engine reconnaissance aircraft with a glazed compartment for the crew, was rejected by the RLM. ***(Wachtl)***

Ar 198

Simultaneously with the Hs 126, the Arado development team designed, a two-, later three-seat, tactical reconnaissance and army co-operation aircraft. After a limited evaluation phase, further development was terminated because the Henschel design had better tactical performance and a simpler layout.

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Ar 198 V0	—	Unknown	Static test-bed only	Unknown	Scrapped
Ar 198 SV1	D-ODLG	5681	Flight development with BMW 132 A-1	Unknown	Unknown
Ar 198 SV2	Unknown	5682	Flight development with BMW Bramo 323 A-1	Unknown	Unknown

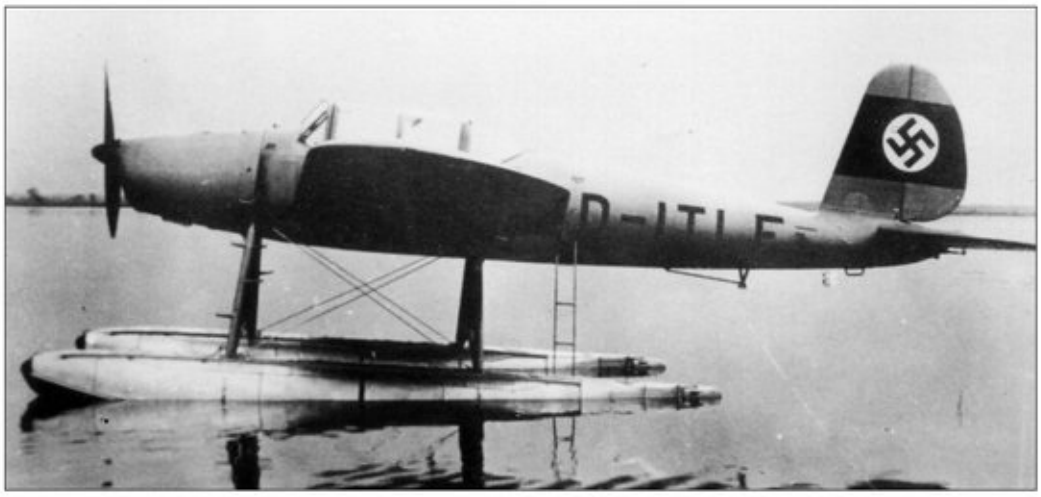
Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Ar 198 SV3	D-OHHS	5683	Flight development with new Fowler flaps	Unknown	Unknown

Ar 199

Because of the large number of floatplanes available, this design’s chances of success were limited. Therefore only five prototypes and a number of pre-series aircraft (A-0) were built and finally were used for communication purposes and

flight training for naval flyers.

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Ar 199 V1	D-IRFB NH+AM	3671	Flight development as 1st prototype a/c	Mar. 1939	7.05.40 used by E-Stelle See
Ar 199 V2	D-ISBC	3672	2nd prototype a/c used for flight evaluation	June 1939	Crashed in 1940
Ar 199 V3	D-ITLF	3673	Used for ice landing trials	Late 1939	Lost on 16.08.42
Ar 199 V4	DH+AN	3674	Flight development	Late 1939	Last mentioned 1940
Ar 199 V5	RC+HR	3676	Pre-series (Ar 199 A-0) development	Jan. 1941	Last mentioned mid-1940

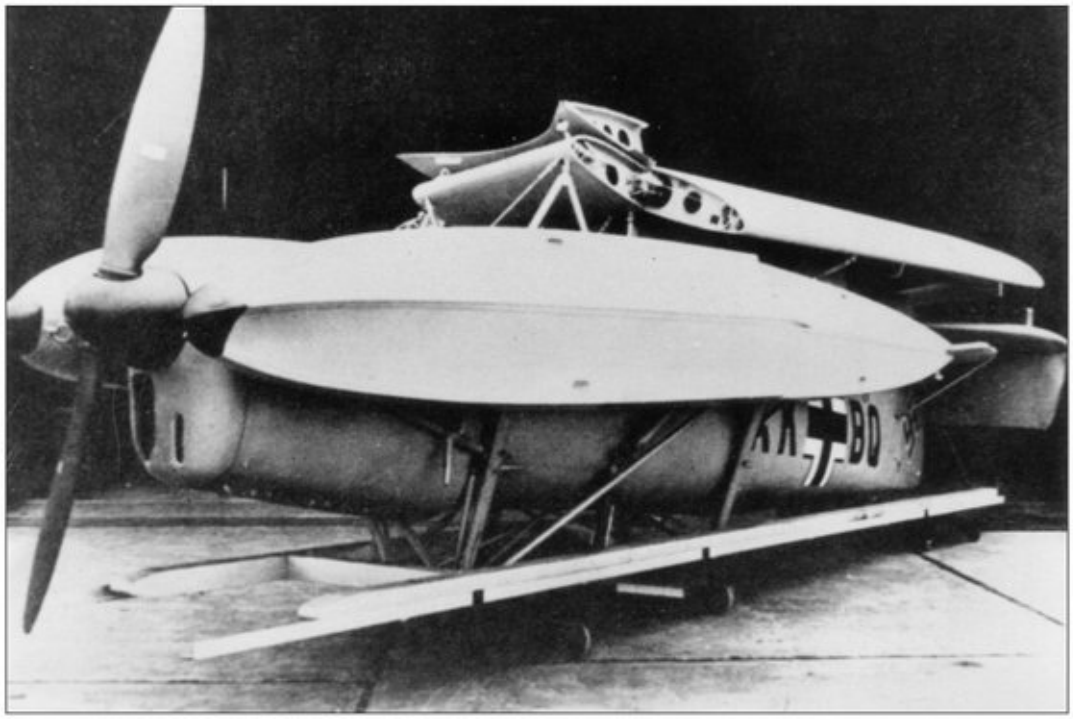


The Ar 199 floatplane was designed as a training aircraft based on the Ar 96m. Shown here is the V3 aircraft. ***(Nowarra)***

Ar 231

The Ar 231 was intended to be a submarine-borne reconnaissance aircraft, dismantled for storage and re-assembled when required. It saw only brief operational service. It needed a 20-knot wind for take-off and it took 10 minutes to remove it from its transport container on the submarine and assemble it for its mission.

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Ar 231 V1	KK+BP	2310001	Flight development, later new floats installed	25.07.40	Unknown
Ar 231 V2	KK+BQ	2310002	Flight development with HM 506 A-1 installed	Mar. 1940	Unknown
Ar 231 V3	KK+BR	2310003	Evaluation with HM 501 A and performance tests	Apr. 1941	Destroyed on 27.09.42
Ar 231 V4	KK+BS	2301004	Flight and tactical development with E-Stelle See	Mid-1941	Destroyed on 27.09.42



The Ar 231 was designed as a small reconnaissance aircraft to be used on submarines or
auxiliary cruisers. It could be dismantled, as the second prototype shows.
(Wachtl)

Ar 232

The Ar 232 was a large medium-range general-purpose transport aircraft. It was evaluated with two and four Bramo radial engines with good performance results. It also had a good rough-field capability. Due to increasing fighter production commitments Arado was forced to cease production in 1944.

Two versions of the Ar 232, fitted with two or four radial engines, were produced by the Arado works. The first of these, the Ar 232 V1, was initially flown without camouflage and markings. ***(Arado-Werksfoto)***

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Ar 232 V1	GH+GN	2320001	Flight development	28.06.42	Unknown
Ar 232 V2	—	2320002	Not completed	None	Unknown

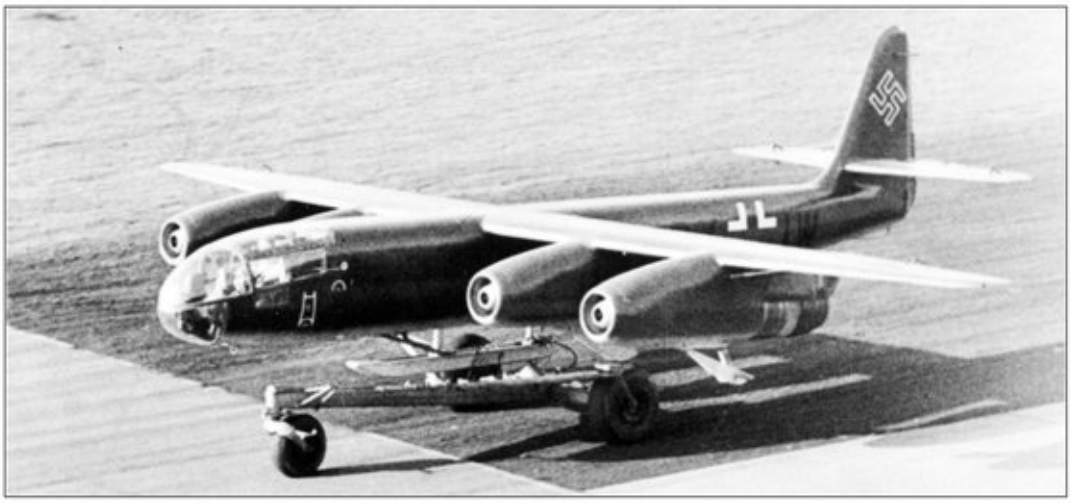
Ar 234

The development of Ar 234 jet bombers and reconnaissance aircraft took place in three steps. The first batch of prototype aircraft (version A) were flown with a skid undercarriage. These were followed by version B which was fitted with a fully retractable undercarriage, while variant C was propelled by four BMW 003 jet engines. Evaluation of the Ar 234 C-3 was still unfinished in early 1945, and all attempts to continue work on the subsequent Ar 234 D and E were also terminated early in 1945.

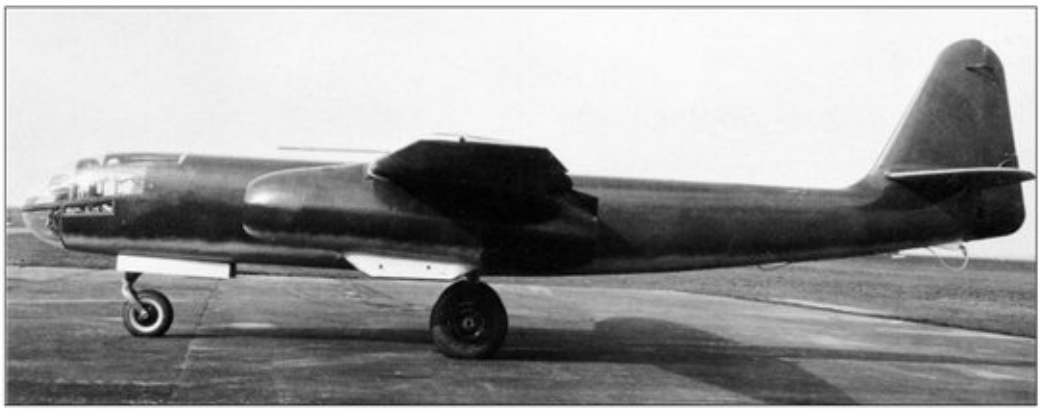
Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Ar 234 V1	TG+KB	130001	1st prototype a/c, fitted with two Jumo 004 A	30.07.43	Crashed on 29.08.43 with heavy damage
Ar 234 V2	DP+AW	130002	2nd prototype a/c, fitted with two Jumo 004 A	13.09.43	Crashed on 2.10.43 due to engine failure
Ar 234 V3	DP+AX	130003	Flight evaluation, equipped with a parachute brake	29.09.43	Destroyed in Aug. 1944
Ar 234 V4	GK+AY	130004	Flight evaluation with new landings flaps	26.11.43	Destroyed in Aug. 1944
Ar 234 V5	GK+IV	130005	Flight trials used for engine evaluation	22.12.43	Crashed after friendly fire on 28.08.44

The early Ar 234 prototypes were produced in response to an RLM demand for a high-
speed reconnaissance aircraft. The first was Ar 234 V1 (TG+KB). ***(Creek)***

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Ar 234 V6	GK+IW	130006	Evaluation of version with four single BMW 003 A-0s	25.04.44	Hit by friendly fire then damaged landing 1.6.44
Ar 234 V7	GK+IX	130007	Prototype recce a/c	22.06.44	Shot down on 19.11.44
Ar 234 V8	GK+IY	130008	1st evaluation with four BMW 003 A-0 in double installation	04.02.44	Terminated after Ar 234 B became available
Ar 234 V9	PH+SQ	130009	1st prototype Ar 234 B a/c, including a new retractable undercarriage	12.03.44	Last mentioned on 2.12.44



The Ar 234 V6 was powered by four single jets and was faster in level flight.
(Creek)



The second-stage development of the Ar 234 was the B variant, with a fully retractable
undercarriage. The design was further improved as shown on Ar 234 V9.
(Creek)

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Ar 234 V10	PH+SR	130010	Prototype fitted with a Patin and a PDS system	07.04.44	Crashed on 22.07.44
Ar 234 V11	PH+SS	130011	Evaluation of offensive weapon installation	10.05.44	Last mentioned on 26.03.45
Ar 234 V12	PH+ST	130022	Tests with Neptun antenna and new flaps	14.09.44	Damaged during low-level attack on 4.04.45
Ar 234 V13	PH+SU	130023	Evaluation with 2 x 2 BMW 8mW 003 A-0	06.09.44	Crashed after engine failure on 6.09.44
Ar 234 V14	PH+SV	130024	Details unknown	Feb. 1945	Destroyed by own forces
Ar 234 V15	PH+SW	130025	Evaluation of jet engines and rocket-assisted take-off	20.07.44	Destroyed by own forces In Apr. 1945

Ar 234 V17 had two BMW 003 A-1s instead of two Junkers jet engines. ***(Creek)***

The third step in increasing the performance of the Ar 234 was the planned installation of four BMW 003 As in double nacelles, as shown beneath the wings

of Ar 234 V19. ***(Creek)***

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Ar 234 V16	None	130026	Probably not completed prototype with BMW 003 R	—	Destroyed by British forces
Ar 234 V17	PI+SY	130027	Prototype with two BMW 003 A-1 jets	25.10.44	Destroyed by own forces in Apr. 1945
Ar 234 V18	PI+SZ	130029	Proposed with a new swept wing Pfeilflügel	08.03.45	Unknown
Ar 234 V19	PI+WX	130029	Prototype with four BMW 003 A-1 in double nacelles	16.10.44	Last mentioned on 30.03.45
Ar 234 V20	PI+WY	130030	BMW engine development	05.11.44	Destroyed by own forces during Apr. 1945
Ar 234 V21	RH+WZ	130061	Flight development of C-3 series	21.11.44	Installation of prototype wings early in 1945

The Ar 234 V21, delivered in early 1945, was among the last prototype aircraft to be
completed in wartime Germany. ***(Creek)***

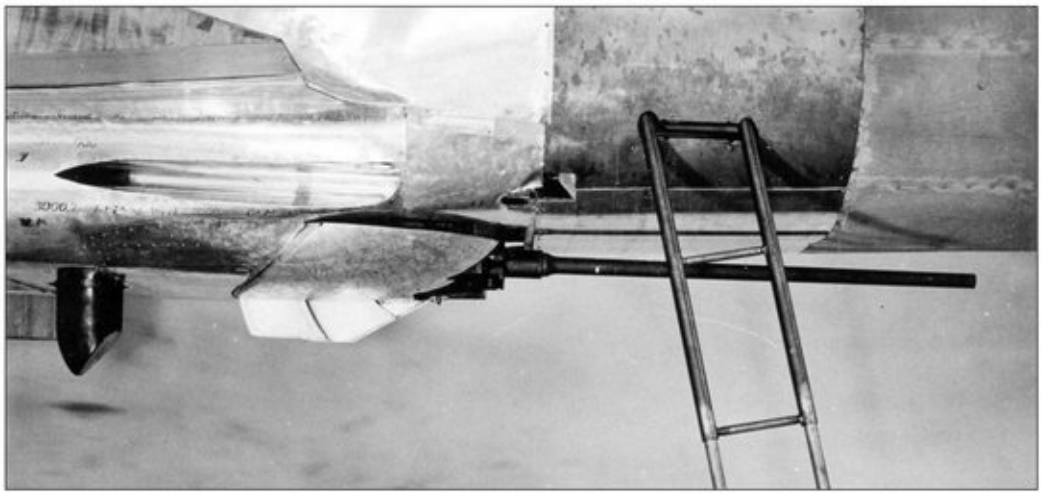
Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Ar 234 V22	RK+EL	130062	Performance trials (C-3)	01.01.45	Used in Mar. 1945
Ar 234 V23	RK+EM	130063	Armoured pressurized cabin without armament	14.01.45	Last mentioned on 5.04.45 (pilot's log)
Ar 234 V24	RK+EN	130064	Armoured pressurized cabin with armament	12.01.45	Last mentioned on 23.03.45 (pilot's log)
Ar 234 V25	RK+EO	130065	New central fuselage section and larger wheels	02.02.45	Destroyed by own forces on 2.05.45
Ar 234 V26	Unknown	130066	Proposed to be fitted with a new wing structure	Jan. 1945	Unknown
Ar 234 V27	Unknown	130067	Second a/c with new wings	Jan. 1945	Unknown
Ar 234 V28 to	Unknown	Unknown	Under construction in Mar. 1945	—	Unknown
Ar 234 V32	Unknown	Unknown	Under construction in Mar. 1945	—	Unknown

The Ar 240 (V3) heavy destroyer aircraft was developed as a powerful warplane, but was not ready for active service until after the Bf 110 was available. ***(Lang)***

Ar 240

The Ar 240 was intended as a heavy destroyer, Kampfzerstörer, aircraft. Its development suffered because of the lack of powerful and reliable engine designs and the shortage of production capacity. Arado was forced to scrap the final prototypes before development was complete.

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Ar 240 V1	DD+QL	240 0001	Flight development with DB 601 V26 + V52 engines	25.06.40	Destroyed on 18.04.41
Ar 240 V2	Unknown	2400002	Flight development with a new cooling system	15.09.40	Last mentioned in Nov. 1941
Ar 240 V3	KK+CD	2400003	Redesigned a/c with pressurized cockpit, DB 601 E	09.05.41	Last mentioned on 4.05.42
Ar 240 V4	Unknown	2400004	Flight development with two DB 603 E	19.06.41	Crashed on 7.08.41
Ar 240 V5	T5+MH	2400005	Tactical usage with Versuchs-stelle für Höhenflüge (VfH: Experimental Centre for High-Altitute Flight)	11.09.41	Destroyed
Ar 240 V6	T5+KH	2400006	Tactical use with VfH	18.01.42	Destroyed
Ar 240 V7	DH+ZU	2400015	Flight development with two DB 605 A	Dec. 1942	Unknown
Ar 240 V8	Unknown	2400016	Flight development with two DB 605 A	Mar. 1943	Unknown
Ar 240 V9	BO+RC	2400017	Flight development with two DB 605 A-1	Mar1943	Crashed during take-off
Ar 240 V10	Unknown	2400018	Revised propulsion with 4-blade propellers	Sept. 1943	Became 1st Ar 440 V1
Ar 240 V11	Unknown	2400019	Probably not completed, 1st Kampfzerstörer	—	Scrapped
Ar 240 V12	Unknown	2400020	Probably not completed 2nd Kampfzerstörer	—	Scrapped



By 1943, several Ar 240 prototypes and mock-ups had been built. Some of them featured a heavy defensive armament of 20 mm cannon. ***(Ransom)***

Ar 396

The RLM ordered the Ar 396 two-seat advanced training aircraft to replace the Ar 96, of which large numbers had been built by 1944. Because of limited resources the RLM wanted a new training aircraft which was much cheaper and easier to construct for future production. However, only a limited number of prototype and pre-series aircraft were built by 1945.

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Ar 396 V1	SO+DA	3960001	Flight development with HM 411 engine	13.04.44	Unknown
Ar 396 V1E	Unknown	Unknown	Flight development with HM 411 engine	20.09.44	Unknown
Ar 396 V2	SO+DB	3960002	Flight development, possibly not completed	Unknown	Unknown
Ar 396 V3	SO+DC	3960003	Flight development, possibly not completed	Unknown	Unknown
Ar 396 V4	SO+DD	3960004	Evaluation of equipment	16.08.44	Last mentioned in Oct. 1944
Ar 396 V5	SO+DE	3960005	Pre-series a/c	10.10.44	Unknown
Ar 396 V6 to Ar 396 V20	Unknown	3960006 to 3960020	Proposed prototype a/c possibly not produced	—	No details available

The Ar 396 was intended as a two-seat training aircraft, powered by an Argus in-line engine.
Most of the prototypes were produced outside Germany. ***(Kudlika)***

Ar 440

Development of this large four-engine transport aircraft was stopped by the RLM in 1944 when production of secondary types and all attempts to develop new large aircraft were halted. Some work was carried out in late 1943, however.

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Ar 440 V1	Unknown	2400018	Flight development with two DB 605 G engines	Oct. 1943	Unknown
Ar 440 V2	Unknown	Unknown	Proposed with two DB 605 G and GM 1 nitrous-oxide boost system	Nov. 1943	Unknown

8.2 Bachem

Ba 349 Natter

Erich Bachem's point-defence fighter was tested between November 1944 and April 1945. Due to the lack of resources it became obvious that desperate efforts would be required if any production of the Ba 349 A-1 or B-1 versions was to take place. Even so, during the closing month of the war some more Ba 349 prototypes were built. Because major components, including instruments, rocket engines and so on, were increasingly hard to find, no flight evaluation was undertaken after the Ba 349 M34.

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Ba 349 M1	None	—	Flight performance tests (manned a/c) of towed a/c	03.11.44	Crashed on 03.11.44
Ba 349 M2	None	—	Separation of major parts and descent by parachute (unmanned a/c)	07.11.44	Destroyed after release
Ba 349 M3	None	—	Flight performance tests (manned a/c) by powered a/c	14.12.44	Minor damage during final landing
Ba 349 M4	None	—	Static test-bed for weapon tests (MK 108, Föhn and R4M rockets)	—	Not flown
Ba 349 M5	None	—	Evaluation of recovery later used for static trials (unmanned a/c)	02.12.44	Damaged during its evaluation
Ba 349 M6	None	—	Vertical take-off of an unmanned prototype a/c	03.12.44	Completely destroyed when hitting the ground
Ba 349 M7	None	—	Vertical take-off of an unmanned prototype a/c	05.12.44	Minor damage, used for static tests in 1945

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Ba 349 M8	None	—	Towed manned flight to test a recovery parachute	14.02.45	A/c completely destroyed when hitting the ground
Ba 349 M9	None	—	Possibly not completed	—	No further details known
Ba 349 M10	None	—	Replacement a/c	—	Possibly not flown
Ba 349 M11	None	—	Replacement a/c	—	Possibly not flown
Ba 349 M12	None	—	Replacement a/c	—	Possibly not flown
Ba 349 M13	None	—	Vertical take-off using four boosters, unmanned	24.03.45	A/c completely destroyed
Ba 349 M14	None	—	Vertical take-off by boosters and LGW guidance system	16.03.45	A/c completely destroyed
Ba 349 M15	None	—	Static test-bed used for weapons evaluation	—	Parts scrapped
Ba 349 M16	None	—	Vertical take-off of an unmanned prototype	18.12.44	A/c completely destroyed
Ba 349 M17	None	—	Vertical take-off of an unmanned prototype using four boosters	29.12.44	Used for static tests early in 1945
Ba 349 M18	None	—	Replacement a/c	—	Never flown
Ba 349 M19	None	—	Replacement a/c	—	Never flown

The BP 20 point-defence fighter, later called the Ba 349 Natter, was first tested in flight
towed by an He 111. For take-off, the BP 20 M1 was carried on a trolley.
(Köclner)

The third prototype aircraft, Ba 349 M3, had a fixed undercarriage. ***(Klöckner)***

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Ba 349 M20	None	—	Static test-bed used for booster evaluation	—	Never flown
Ba 349 M21	None	—	Vertical take-off of an u unmanned prototype a/c	18.12.44	Burnt during test
Ba 349 M22	None	—	Failure of vertical take-off	25.02.45	A/c and rocket engine burnt
Ba 349 M23	None	—	1st manned vertical take-off	01.03.45	Pilot killed after cabin hood broke off
Ba 349 M24	None	—	Vertical take-off with new fins and rocket engine	15.03.45	Rescue of rocket engine by parachute
Ba 349 M25	None	—	Possibly manned take-off	10.04.45	No details available
Ba 349 M26	None	—	Not tested	—	No further details
Ba 349 M27	None	—	Not tested	—	No further details
Ba 349 M28	None	—	Not tested	—	No further details
Ba 349 M29	None	—	Not tested	—	No further details
Ba 349 M30	None	—	Not tested	—	No further details
Ba 349 M31	None	—	Vertical take-off test with booster, unmanned	14.02.45	A/c destroyed when hitting the ground
Ba 349 M32	None	—	During test flight parachute failed to fold	15.02.45	A/c destroyed when hitting the ground
Ba 349 M33	None	—	Vertical take-off with revised rudders	26.02.45	A/c exploded in mid-air
Ba 349 M34	None	—	Unmanned a/c with LGW (long-wave) guidance	21.03.45	A/c destroyed during test
Ba 349 M35	None	—	Not completed	—	No further details

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Ba 349 M36 to Ba 346 M50	None	—	Not completed	—	No further details

Possibly the only Ba 349 used for manned vertical take-off, Ba 349 M23, was launched on 1 March 1945. ***(Bachem-Werksfoto)***

8.3 Hamburger Flugzeugbau/Blohm & Voss

Ha 135

The Hamburger Flugzeugbau's Ha 135 was an unsuccessful attempt by this small aircraft manufacturing company to design a two-seat training plane for the RLM. Producing the design also had another purpose, gaining the company necessary experience in making up-to-date metal components for civil and military tasks.

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Ha 135 V1	D-EXIL	101	Flight development with a Siemens Sh 14 A installed	28.04.34	Flown by Deutscher Luftsportverband (DLV: German Sports Flying Assoc.)
Ha 135 V2	D-EKEN	102	Flight characteristics and performance tests from 14.07.34	30.04.34	Flown by DLV, later scrapped

The first aircraft built by Hamburger Flugzeugbau was a small training aircraft, the Ha 135,
of which only six were completed. ***(Selinger)***

Ha 136

The Ha 136 was designed to became an advanced single-seat training aircraft of all-metal construction. Because the Ha 136 seemed too expensive, another competitor, the Fw 56 Stößer, was chosen by the RLM. In any case, both Ha 136s were scrapped after only a few evaluation flights because their flight behaviour was very poor.

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Ha 136 V1 (A)	D-ESIN	105	Flight development with Siemens Sh 14 A radial	Autumn 1934	Scrapped
Ha 136 V2 (B)	D-ESEL	106	Flight development with Argus As 8 B in-line engine	End 1934	Scrapped

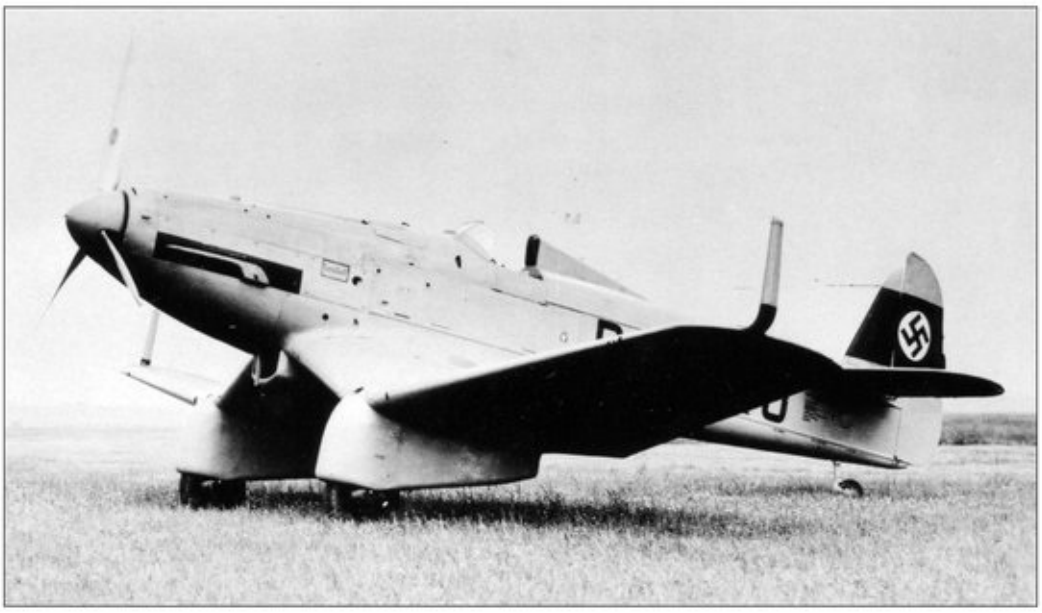
The Ha 136 single-seated advanced training aircraft was tested with a radial engine (V1)
and an in-line one (V2). ***(Selinger)***

Ha 137

The Ha 137, a light single-seat dive-bomber which was also suitable for close air support missions, was thought to offer an alternative to the Hs 123, but senior officers in the RLM decided that a biplane would be much more manoeuvrable when looking for targets over future battlefields.

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Ha 137 V1	D-ITEK	107	Flight development with a BMW 132 radial engine	18.01.35	Scrapped
Ha 137 V2	D-IXAX	108	Performance tests, BMW 132 radial engine	13.05.35	Scrapped
Ha 137 V3	D-IZIQ	109	Flight development with a Rolls-Royce Kestrel engine	15.04.35	Scrapped

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Ha 137 V4	D-IFOE	183	Flight development with a Jumo 210 C in-line engine	11.11.36	Scrapped
Ha 137 V5	D-IYXO	184	Pre-series a/c of Ha 137 A-1	14.12.35	Scrapped
Ha 137 V6	D-ITNU	185	Pre-series a/c of Ha 137 A-1	06.06.36	Crashed in July 1937



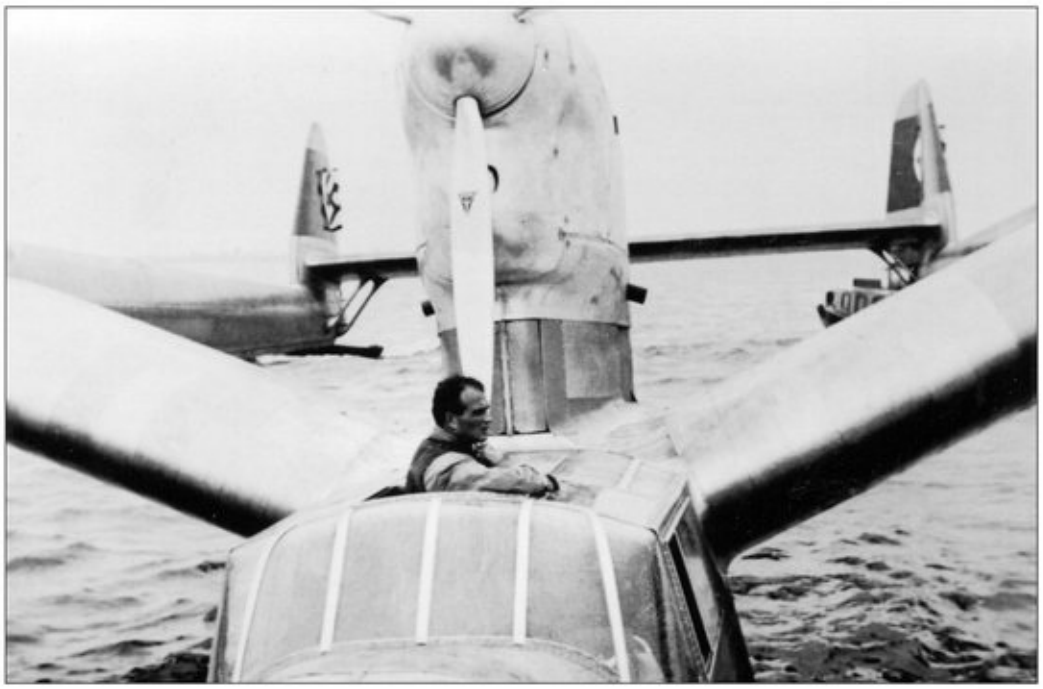
The fifth prototype of the light dive-bomber Ha 137 (V5) was intended to become the first Ha 137 A-1 series variant. ***(Nowarra)***

Ha/BV 138

Only two prototypes of the Ha 138 were finished and were used for evaluation of performance in the take-off phase and flight development in general. After an efficient wing layout had been found, no further prototypes were of use, because more powerful engines and an improved wireless set still need to be tested. The prototypes were followed by a few pre-series aircraft (A-0) which were also used

in the tactical development of the BV 138 design.

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Ha 138 V1	D-ARAK	114	Flight development with gull wings and Jumo 205s	14.07.36 (1st attempt)	Unknown
Ha 138 V2	D-AMOR	113	Trials with a revised wing structure	23.07.37	Unknown
Ha 138 V3	—	148	Not completed	—	Parts used for a 1st A-0



The first Ha 138 (V1) flying boat was tested by Helmut Wasa Rodig. Due to the layout of the wings it had poor take-off performance. ***(Selinger)***

The second prototype Ha 138 V2 (D-AMOR) was tested on the River Elbe near Hamburg. ***(Griehl)***

Only three Ha 139s were built; the first two belonged to the A series, the third to the

B series. Shown here is Ha 139 V2 (D-AJEY) during catapult launch trials aboard a seaplane depot ship. (Deutsche Lufthansa)

Ha 139

Only three prototypes of this design, originally a civilian type, were completed. After long tests carried out by Deutsche Lufthansa with both the Ha 139 A (V1 and V2) aircraft, the third Ha 139 (B) was evaluated with a defensive military armament and a magnetic mine degaussing loop. Because of a shortage of spare parts all Ha 139s were finally taken out of service in 1942.

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Ha 139 V1 (A)	D-AMIE	181	Flight development with four Jumo 205 C engines	Oct. 1936	Scrapped in 1944
Ha 139 V2 (A)	D-AJEY	182	Development with an altered twin fin and new cooling	Early 1937	Scrapped in 1944
Ha 139 V3 (B)	D-ASTA	201	Flight development with an enlarged fin section, rebuilt with a degaussing ring	Early 1938	Scrapped in 1944

Ha 140

The Ha 140 was designed for a secret competition to produce a modern three-seat reconnaissance aircraft and torpedo bomber. Because the He 115 seemed to be more reliable during long-endurance flights over sea, Blohm & Voss were not given a production contract. All three prototypes built were later used for further evaluation tasks before being scrapped.

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Ha 140 V1	D-AUTO	281	Flight development and sea trials by E-Stelle Travemünde	30.09.37	Scrapped
Ha 140 V2	D-ATEK TJ+HT	282	Flight development with BMW 132 CD radials and weapon trials	Dec. 1937	Flown on 7.05.40 by E-Stelle Travemünde
Ha 140 V3	D-AMME	283	Trials with fin of BV 222 and new wing structure	Late 1937	Scrapped

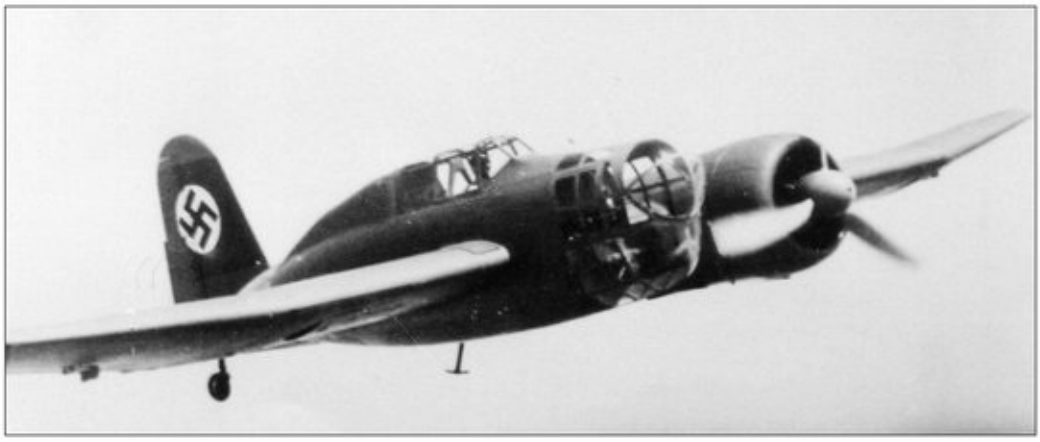
The Ha 140 torpedo-bomber performed less successfully in competition than Heinkel's
He 115 and was therefore never produced. ***(Nowarra)***

Ha/BV 141

No large scale production of this unusual three-seat tactical reconnaissance plane was ever started. Only some eighteen A and B prototypes and a few B-1 pre-series aircraft were built. Most of them were finally scrapped; only a few saw front-line service.

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Ha 141 V1	D-OTTO	171	General flight development, later transferred to Henschel	28.02.38	Scrapped
Ha 141-0/ Ha 141 V2	D-ORJE PC+BA	172	Stability tests done by BV, a/c fitted with a BMW 139 F	25.02.38	Scrapped

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Ha 141 V3	D-OLGA	359	Different testing purposes, evaluation with BMW 132 N	05.10.38	Scrapped
BV141 V4	D-OLLE BL+AA	360	Armament and weapon tests as BV 141 A-01	Unknown	Unknown
BV 141 V5	BL+AB	361	New revised air intakes, flown as BV 141 A-02	Unknown	Became a training airframe in May 1942
BV 141 V6	BL+AC	362	Tactical development as A-03 at Aufklärungsschule 1 (Recce School 1), Großenhain	Unknown	Unknown
BV 141 V7	BL+AD	263	Tactical development at Großenhain as A-04	Unknown	Unknown
BV 141 V8	BL+AE	364	Tactical development at Großenhain as A-05	Unknown	Unknown
BV 141 V9	NC+QZ	14102-10001	Flight development with a BMW 801 A, pre-series B-01	Unknown	Unknown
BV 141 V10	NC+RA	14102-10002	Tactical development by KdE (B-02 pre-series)	Unknown	Unknown
BV 141 V11	NC+RB	14102-10003	Tactical development by KdE (B-03 pre-series)	Unknown	Unknown
BV 141 V12	NC+RC	14102-10004	Tactical development by KdE (B-04 pre-series)	Unknown	May 1942 weapons test at Tarnewitz
BV 141 V13	NC+RD	14102-10005	Tactical development by KdE (B-05 pre-series)	Unknown	Unknown
BV 141 V14	NC+RE	14102-10006	Evaluated with a new dive brake (B-06 pre-series)	Unknown	Last mentioned at Hamburg on 15.07.43
BV 141 V15	NC+RF	14102-10007	Tactical development by KdE (B-07 pre-series)	Unknown	Unknown



The first Ha 141-0 reconnaissance aircraft differed from the later prototypes in its
central fin section and early fuselage layout. ***(Lange)***

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
BV 141 V16	NC+RD	14102-10008	Tactical development by KdE (B-08 pre-series)	Unknown	Flown at Rechlin on 04.08.42
BV 141 V17	NC+RG	14102-10009	Tactical development by KdE (B-09 pre-series)	Unknown	Unknown
BV 141 V18	NC+RH	14102-10010	Tactical development by KdE (B-010 pre-series)	Unknown	Used at Karlshagen (Peenemunde) in May 1944

Among the eighteen prototypes of the BV 141, five were forerunners of the A-0 pre-production series and ten led to the later B-0 series. ***(Krieg)***

Ha/BV 142

Originally designed as a civil airliner, three of the four Ha 142 prototypes were subsequently modified as long-range reconnaissance aircraft for the Luftwaffe. They underwent a number of operational tests, including evaluation of the new GT 1200 C aerial torpedo.

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Ha 142 V1/ BV 142 V1/U1	D-AHFB PC+BB	218	Flight development leading to several revised systems	11.10.38	Flown July 1940 as rebuilt a/c. Fate unknown
Ha 142 V2/ BV 142 V2/U1	D-ABUV PC+BC T5+BC	219	Evaluated for Lufthansa, rebuilt as a long-range reconnaissance a/c	03.06.39	Flown May 1940 as rebuilt a/c. fate unknown.
Ha 142 V3	D-ATTA PC+BD	437	Evaluation as 2nd long-range reconnaissance a/c	Sept. 1940	Crashed on 11.09.40
Ha 142 V4	PC+BE	438	Evaluation as 3rd long-range recce a/c	Oct. 1940	Flown by E-Stelle Travemünde from Jan. 1941

The Blohm & Voss Ha 142 airliner was powered by four radial engines and was rebuilt into
transport and reconnaissance variants early in the Second World War. ***(Urschel)***

BV 144

Development and construction of the prototype BV 144 was placed with Breguet in occupied France, where the machine made its first flight in August 1944. After the liberation the French continued development for a short while but abandoned the project in 1946.

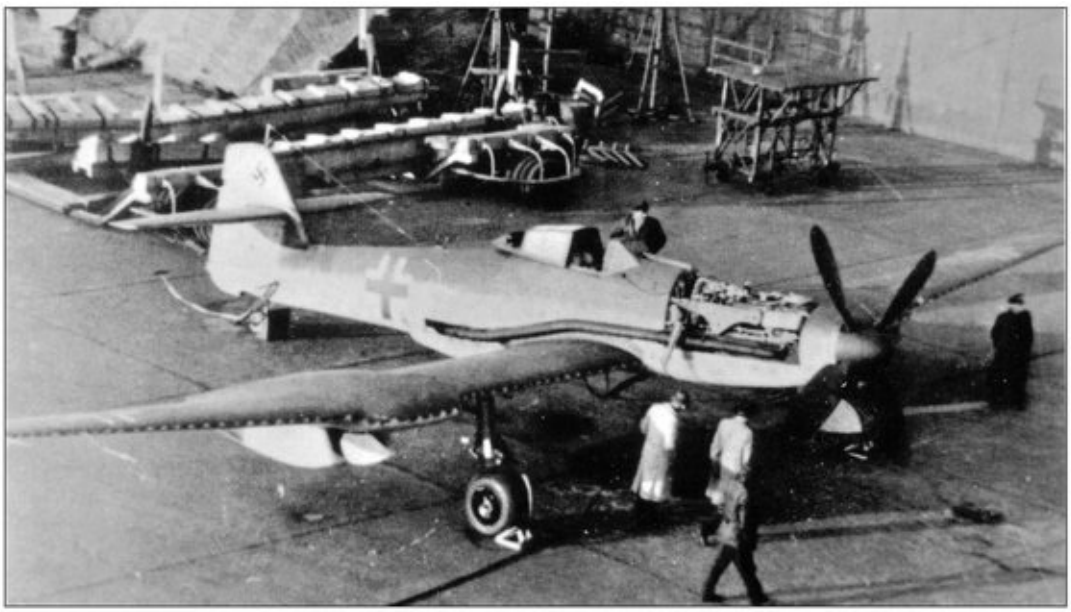
Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
BV 144 V1	Unknown	Unknown	Flight development with two BMW 801	16.03.46	Flights under French control in1946
BV 144 V2	Unknown	Unknown	Only completed to 70%	—	Scrapped in 1946

Only one BV 144 prototype was completely finished, in 1946, by French constructors. ***(Ricco)***

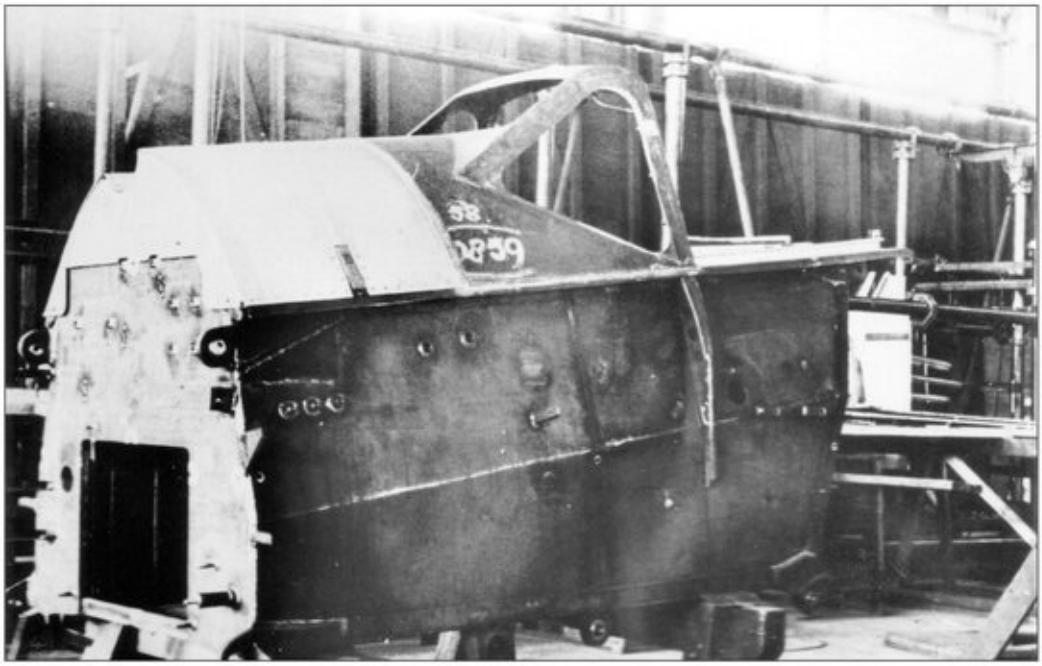
BV 155

Because of limited resources at the Messerschmitt development bureau, planning for a single-seat high-altitude interceptor based on the Bf 109 H was handed over to Blohm & Voss under a new designation, BV 155. Only one prototype entered flight development, but was destroyed on its evacuation to Neumünster in 1945.

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
BV155 V1	Unknown	360051	Flight development with a DB 603 A and TK 15 super-charger unit (1st BV 155 B-1-prototype)	08.02.45	Crashed on 23.04.45
BV 155 V2	Unknown	360052	90% complete mid-Apr. 1945, but never flown (2nd BV 155 B-1-prototype)	—	Captured by Allied forces at Hamburg-Finkenwerder
BV 155 V3	Unknown	360053	Under construction 85% (3rd BV 155 B-1)	—	Uncompleted a/c scrapped in 1945/46
BV 155 V4	Unknown	360054	Under construction 20%, first BV 155 C-01 a/c	—	Uncompleted a/c, scrapped in 1945/46
BV 155 V5 to BV 155 V7	Unknown	360055- to 360057	Under construction (BV 155 C-02 to C-04)	—	Finished parts scrapped in 1945/46



BV 155 V1 was the sole prototype of an extreme high-altitude fighter aircraft which was
designed as a defence against the eventuality of American B-29 Superfortress strategic
bombers being used against Germany. ***(Selinger)***



The third prototype of BV 155 was never completed. ***(Creek)***

Ha/BV 222

At least nine prototypes of the huge six-engine Ha (later BV) 222 maritime transport and reconnaissance flying boat aircraft left the production line at Hamburg-Finkenwerder. During the war all of these were operated by the Luftwaffe for long-range maritime reconnaissance flights or used for transport duties over the Mediterranean Sea and the North Atlantic. Some from the A and C series were flown with a prototype designation until the end of the war.

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
BV 222 V1	D-ANTE CC+EQ DM+ER X4+AH	365 222-00 0 0001	Flight development as Lufthansa a/c, later used by Luftransportstaffel (See) 222	07.09.40	Lost in Feb. 1943 in Athens harbour
BV 222 V2	CC+ER DM+ER X4+BH	366 222-00 0 0002	Flight development with four Bramo 323 R-2	07.08.41	Captured in May 1945 by Allied forces
BV 222 V3	DM+SD X4+CH	439 222-00 0 0003	General long-range trials by LTS (See) 222	28.11.41	Strafed and sunk on 30.06.43
BV 222 V4 (A)	DM+SE X4+DH	222-00 0 0004	General long-range trials by LTS (See) 222	09.04.42	Sunk by own crew at Kiel in May 1945

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
BV 222 V5 (A)	Unknown X4+EH	222-00 0 0005	Operational use by LTS (See) 222	03.07.42	Strafed and sunk at Biscarosse on 30.06.43
BV 222 V6 (A)	Unknown X4+GH	222-00 0 0006	Operational use by LTS (See) 222	19.08.42	Shot down on 24.11.42 south of Pantelleria
BV 222 V7 (C)	TB+QL	222-00 0 0007	Flight development with Jumo 207 CV	01.04.43	Sunk by own forces at Travemünde in May 1945
BV 222 V8 (A)	Unknown X4+HH	222-00 0 0008	Flight development with Jumo 207 D, not finished	20.10.43	Shot down on 10.12.43 south of Malta
BV 222 V9 (C)	TB+RM	222-00 0 0009	Used for special duties by Führungsstab Norwegen	17.07.43	Sunk by enemy action in 1944 at Travemünde
BV 222 V10 (C)	TB+QN X4+AH	222-00 0 0010	Used by See Aufklarungs-gruppe 129 and on special duties in 1944.	16.10.43	Crashed on 08.02.44
BV 222 V11 (C)	TB+QO X4+BH	330051	Military equipment fitted until 10.01.44, not used in action	23.11.43	Damaged during a low-level attack on 13.05.44
BV 222 V12 (C)	TB+QP DL+TX X4+CH	330052	Used for rocket-assisted take-off, but damaged	09.02.44	Captured by Allied forces and flown to England
BV 222 V13 (C)	DL+TY	330053	No information available	18.04.44	Captured by Allied forces and flown to the USA

The first Ha 222 (V1, D-ANTE) was intended to be tested by Lufthansa but was later
handed over to the Luftwaffe. (Deutsche Lufthansa)

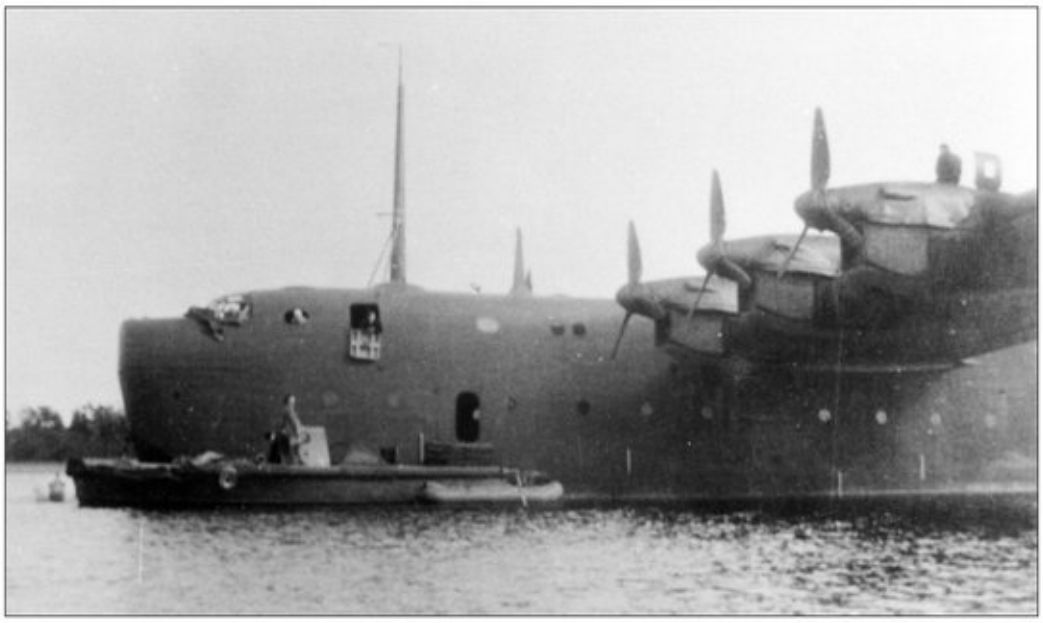
The huge BV 222 prototypes were mainly incorporated into Luftwaffe transport units but a
few were used for reconnaissance missions over the Atlantic and Arctic.

(Nowarra)

BV 238

Only a single prototype of the BV 238 long-range transport and combat flying boat was completed, It was only tested for a rather short period of time by Blohm & Voss pilots, taking off from the Elbe near Hamburg. Further flying boats were under construction in 1944 but work on these prototypes was stopped and they were never completed.

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
BV 238 V1	RO+EZ	238 000 0001	General flight development until 23.06.44	11.03.44	Shot and sunk on the Schaalsee on 18.09.44
BV 238 V2 (BV 238 A-0)	—	238 510 0031	Under construction, incomplete in Apr. 1945	—	Scrapped in 1946
BV 238 V3 (BV 238 A-0)	—	238 010 0002	Under construction, incomplete in Apr. 1945	—	Scrapped in 1946
BV 238 V4 (BV 238 B-0)	—	238 620 0051	Under construction, incomplete in Apr. 1945	—	Scrapped in 1946
BV 238 V5 (BV 238 B-0)	—	238 020 0011	Parts under construction, a/c not completed	—	Parts scrapped in 1946
BV 238 V6 (BV 238 B-0)	—	238 520 0041	Parts under construction, a/c not completed	—	Parts scrapped in 1946
BV 238 V7 (BV 238 B-0)	—	238 620 0052	Parts under construction, a/c not completed	—	Parts scrapped in 1946



The sole BV 238 V1 was tested for a short period of time only and was then hidden on the
Schaalsee where it was found and hit by Allied fighter aircraft. ***(Lange)***

BV 40

The BV 40 single-seat point-defence glider was created in response to a request from the Jägerstab for a fast midget fighter. Because its flight behaviour was extraordinarily poor the evaluation programme was terminated in the summer of 1944 and all parts were scrapped.

The BV 40 point-defence glider never met its specification, because it proved to be
impossible to tow the aircraft at combat height. ***(Nowarra)***

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
BV 40 V1	PN+UA	40 00001	General flight development towed by BV 141 and Bf 110	06.05.44	Crashed on 02.06.44 during its 2nd flight
BV 40 V2	PN+UB	40 00002	Diving up to 600 km/h	05.06.44	Unknown
BV 40 V3	—	40 00003	Static structural test-bed later scrapped	—	Last mentioned on 21.04.44
BV 40 V4	PN+DU	40 00004	Flight development	Unknown	Crashed during 1st flight
BV 40 V5	PN+UE	40 00005	Flight development	06.07.44	Unknown
BV 40 V6	PN+UF	40 00006	Tested with a revised fin section	27.07.44	No further flights, programme cancelled
BV 40 V7 to BV 40 V30	—	Unknown	Pre-series and early series not completed	—	A/c produced were scrapped by end of 1944

8.4 Bücker

Bü 131 Jungmann

The Bü 131 two-seat training aircraft was first tested at Berlin-Johannisthal, the site of Bücker Flugzeugbau. This small biplane saw widespread use with many Luftwaffe training formations and was built until 1941 in great quantities.

The Bü 131a (later called the V1) was tested at Rangsdorf near Berlin. ***(Bücker)***

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Bü 131a (V1)	D-3150	0001	Evaluation with a Hirth HM 60 R-1 engine	27.04.34	Unknown
Bü 131b (V2)	D-EKOF	0002	No data available	1934/35	Unknown

Bü 133 Jungmeister

The Bü 133 single – seat training aircraft differed only a little from the Bü 131. It was mainly used for flight training in aerobatics as was necessary for all future fighter pilots. During flight development, the in-line engine was changed and a radial one was introduced for most future versions.

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Bü 133 V1	D-EVEO	Unknown	Flight development with a Hirth HM 506 installed	21.08.35	Unknown
Bü 133 V2 to Bü 133 V6	Unknown	Unknown	Proposed flight development with HM 14 A engine	1937	Unknown

The Bü 133 was first developed with an in-line engine. Bü 133 V1 (D-EVEO) was followed by a few more prototypes fitted with air-cooled radials. ***(Bücker)***

Bü 134

Development of the Bü 134 was cancelled after the first prototype aircraft was destroyed. The RLM saw no further need for the design because of the availability of the Fi 156 Storch and terminated the contract with Bücker Flugzeugbau. A second prototype may have been under construction in May 1939.

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Bü 134 V1	D-EQPA	Unknown	Flight development with a Hirth HM 504	Unknown	Burnt in hangar on 21.05.39
Bü 134 V2	Unknown	Unknown	No data available	—	—

Only one prototype Bü 134 was completed by Bücker at Rangsdorf. ***(Bücker)***

The Bücker Bü 180 V1 (D-ELIO) performed satisfactorily. ***(Nowarra)***

Bü 180 Student

Possibly only a single prototype of the Bü 180 two-seat trainer was ever completed. A closed cockpit section was installed in D-ESBS, one of the small number of series machines built.

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Bü 180 V1	D-ELIO	Unknown	Flight development with a French Train T-4T engine	Nov. 1937	Unknown

Bü 181 Bestmann

The Bü 181 was one of the most advanced training aircraft of the Luftwaffe. Because the instructor and student pilot sat side-by-side, the Bü 181 was well suited for modern flight training. In the closing days of the war, a Bü 181 was tested carrying four Panzerfaust anti-tank rockets in order to undertake low-level attacks on Allied armour.

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Bü 181 V1	D-EPDS	6001	Flight development with Hirth HM 501 engine	03.03.39	Unknown

The Bü 181 (here V2: D-ERBV) was one of the most advanced German training aircraft
with its side-by-side placement of seats. ***(Bücker)***

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Bü 181 V2	D-ERBV	6002	Revised prototype based on Bü 181 V1	Mid-1939	Unknown
Bü 181 V3	CO+DI	6003	Development with a larger fin section	1939/40	Unknown
Bü 181 V4	CO+DH	6004	Tests carried out together with Ar 79 and others	1939/40	Last mentioned in Mar. 1943
Bü 181 V5	KK+MU	0002	Long-term evaluation by the Luftwaffe	Mid-1940	Unknown

Bü 182 Kornett

Due to the course of the war, only one single-seat Bü 182 prototype was built and only a few series aircraft followed. Most of them were used by elementary flying training schools (FFS A/B) but were soon replaced by other single-seat designs.

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Bü 182 V1	D-ERDG	Unknown	Flight development with Bü M 700 engine	Nov. 1938	Scrapped in Mar. 1943

The development of the Bü 182 V1 (D-ERDG) single-seat sporting plane was

finished
at the wrong time. ***(Bücker)***

8.5 Deutsches Forschungs-Anstalt für Segelflug

DFS 39 (F 3 Delta IV)

The DFS 39, formerly designated as the Fieseler F-3 Wasp, was built at Kassel and was flown for the first time there. After it was handed over to the Deutsche Forschungs-Anstalt für Segelflug (DFS – German Research Institute for Unpowered Flight), it became the first step towards building a flying-wing design leading to a future air-superiority aircraft for Luftwaffe point-defence fighter units, the Me 163.

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
DFS 39 a/b/c	D-ENFL	Unknown	Flight development, later fitted with a revised fuselage	Jan. 1937	Unknown

DFS 39 V1 was built for development purposes only. Its flying-wing structure later became important in the construction of aircraft such as the Me 163 and others. ***(Deutscher Aeroclub)***

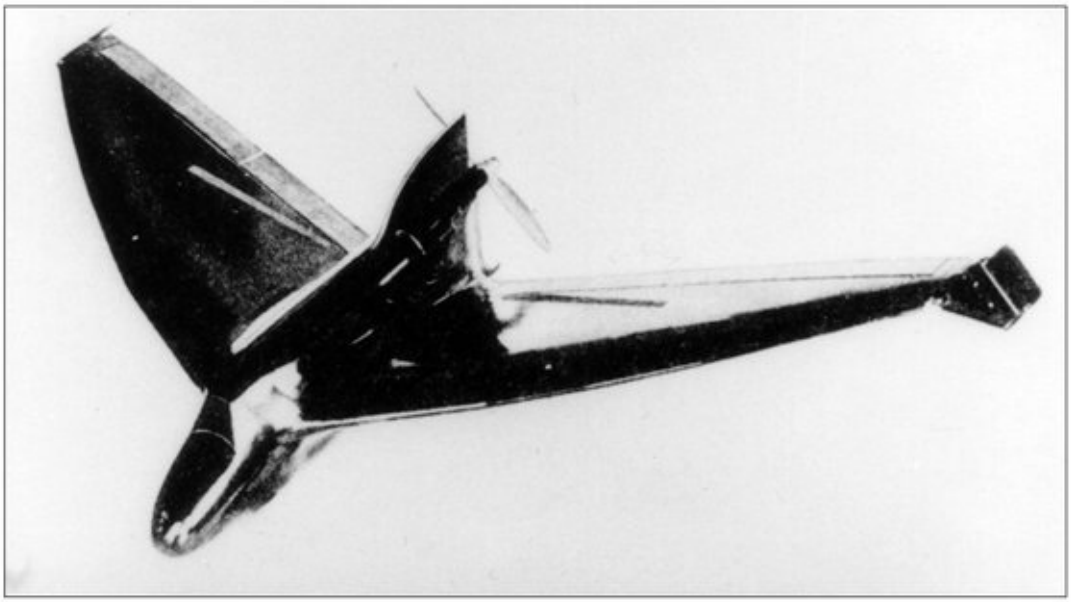
DFS 40 (Delta V)

It is obvious that the development of the DFS 40 was the next step in the production of tail-less aircraft. The design was used to collect more reliable data concerning the flight behaviour of planes lacking a fin section.

Designation Markings Production No. Remarks First flight Ultimate fate

DFS 40 V1 None — General flight development Unknown Crashed mid-1939

The advanced DFS 40 V1 was tested by DFS at Griesheim near Darmstadt. ***(Griehl)***



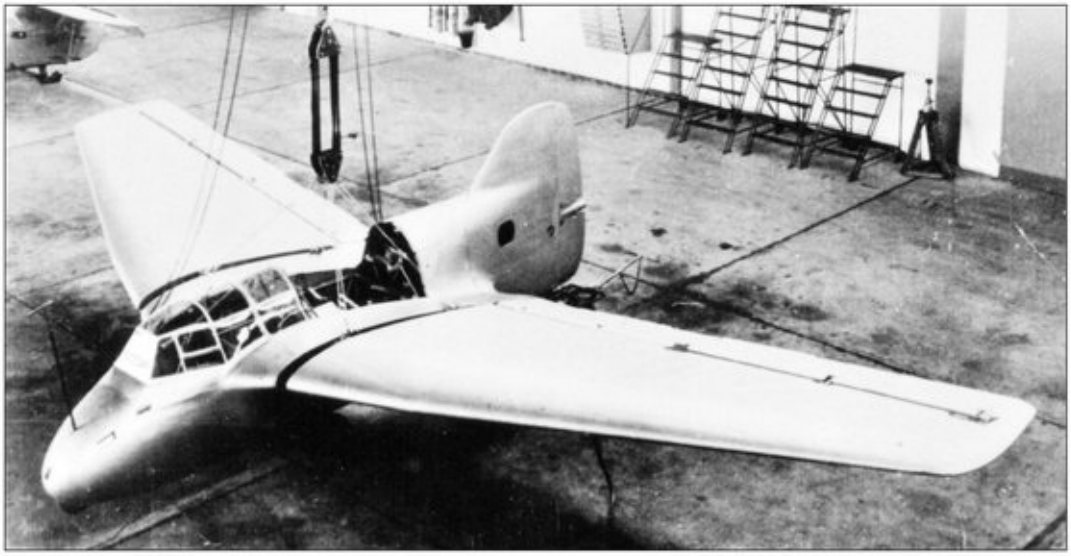
Only mock-ups and wind-tunnel models of the DFS 193 were ever built. ***(Wachtl)***

DFS 193/194

The DFS 193 was a proposal for a finless design powered by a 100 hp Argus in-line engine but its design contract was cancelled. Work continued, however, with a search for a new powerplant. The DFS 194, a so-called Delta-Jagdeinsitzer, was never used as a flying-wing single-seat fighter but as a development platform leading towards a rocket-propelled aircraft which was expected to

become a practical possibility as a fighter in the near future.

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
DFS 194 V1	None	—	Flight development as towed a/c, later with RI-203 rocket propulsion (Aug. 1940)	July 1939	Last mentioned at Rechlin in summer 1940
DFS 194 V2	None	—	No details available, a/c may have been completed	—	Parts probably scrapped



The DFS 194 was the forerunner of several versions of the later Me 163. ***(Wachtl)***

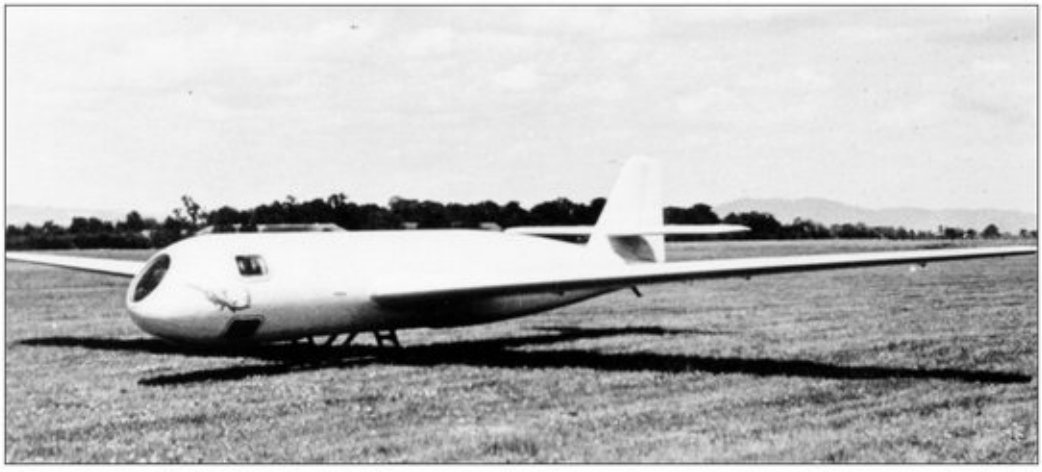
DFS 228

The DFS 228 was a high-altitude reconnaissance rocket-propelled glider. Two of three projected prototypes were under construction in late 1944 but only one was flown a few times at Ainring but failed in attempts to climb up to an altitude of 19,000 m.

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
DFS 228 V1	D-IBFQ	—	Evaluation as a glider a/c	Early 1945	Captured by Allied forces on 01.05.45

The DFS 228 Sägefisch ('Saw-fish') was carried to high altitude on a Do 218 K-03. ***(Schmitt)***

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
DFS 228 V2	Unknown	—	2nd evaluation aircraft finished in Oct. 1944	Unknown	Destroyed by Allied bombs early in 1945
DFS 228 V3	—	—	Not completed	—	Scrapped in 1945/46



A close-up view of the DFS 228 V1 experimental glider which was tested without engines. ***(Schmitt)***

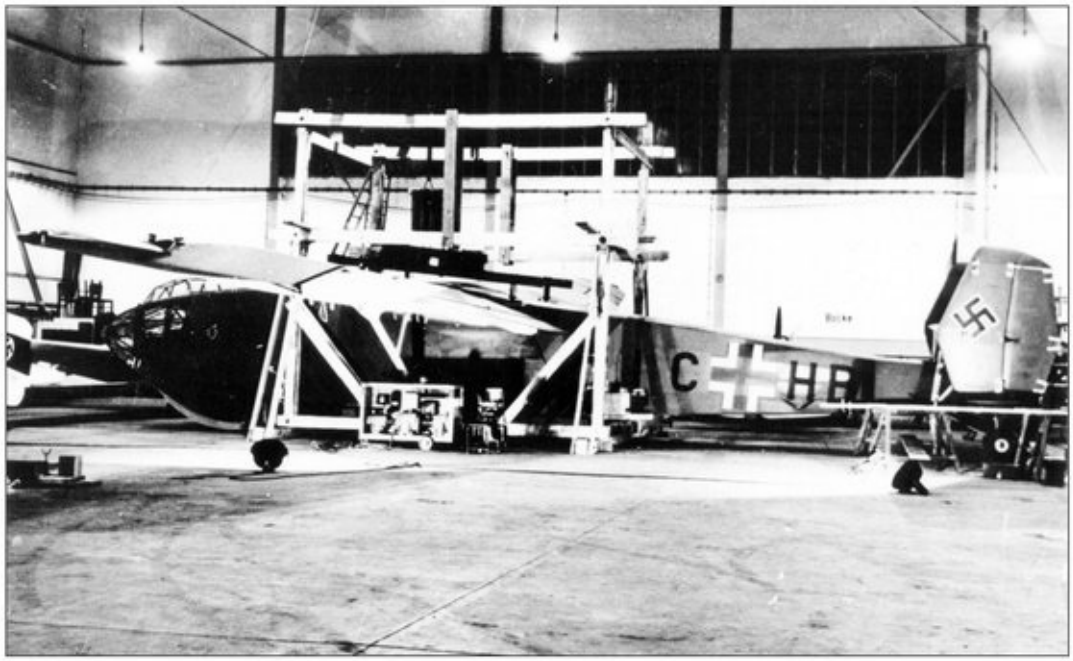
The first DFS LS SV1 (D-5-289) transport glider on the Groß Venediger mountain
during its trials in October 1940 ***(Krieg)***

DFS 230

This combat glider project began as the DFS LS (Lastenträger: Load Carrier) and continued as the DFS 230 A-0, which was ready for evaluation in 1937. No authentic sources have ever been found which cover the test flights. This is because the flight evaluation at Ainring and Stendal was regarded as top secret. Some trials with parachute brakes took place later at Finthen near Mainz.

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
DFS LS SV1	D-5-289	—	General flight development and towing experiments	End 1936	Flown until Oct. 1940
DFS LS SV2	D-5-241	—	1st pre-series a/c of DFS 230 A-0 pre-series type	Early 1937	No details available
DFS LS SV3	D-5-271	—	2nd pre-series a/c of DFS 230 A-0 pre-series type	Early 1937	No details available
DFS 230 V4	Unknown	—	Possibly used for static tests	—	Parts possibly scrapped
DFS 230 V5	Unknown	—	1st fully equipped DFS 230 A-1 series a/c	1938	No details available
DFS 230 V6	Unknown	—	Prototype a/c with a fixed undercarriage (D-1 series)	1938	No details available
DFS 230 V7	DV+AV	—	Pre-series a/c of proposed improved F-1 series	Unknown	No details available

DFS 230 CE+WH belonged to a group of pre-series aircraft used for testing all aspects of the air-assault mission. ***(Krieg)***



The DFS 331 was too expensive to build in large quantities, thus the DFS 230 became the
sole small troop-carrying glider in service. ***(Krieg)***

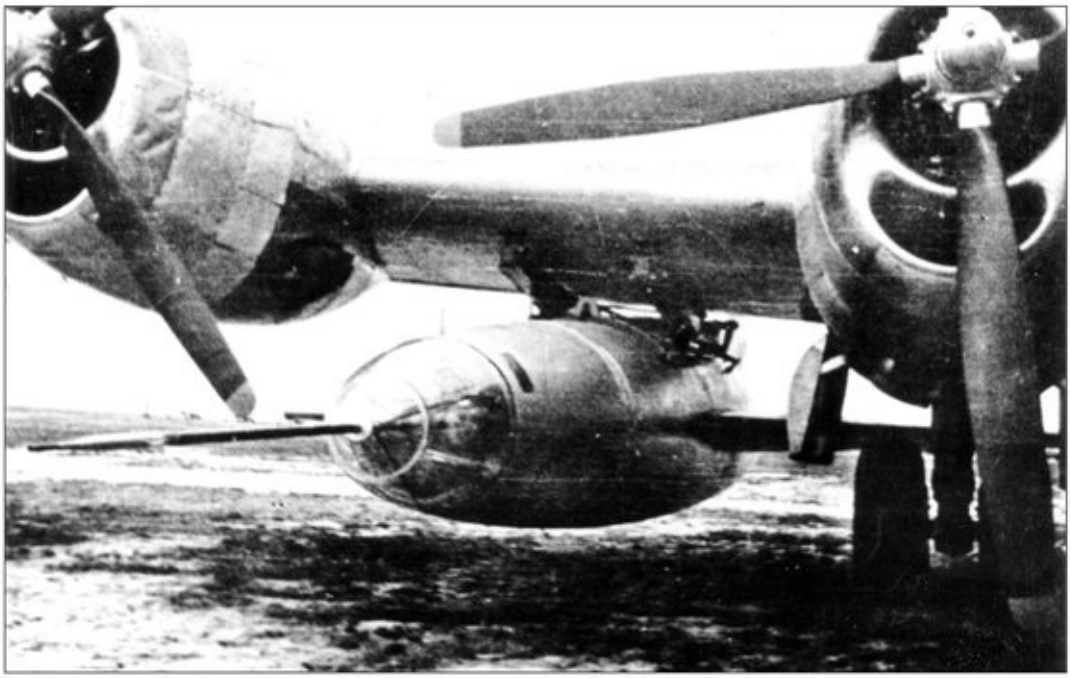
DFS 331

The DFS 331 was an enlarged and aerodynamically refined development of the DFS 230. It was constructed early in 1940 by Dipl.-Ing. Kalkert, but only one of the several aircraft ordered by the RLM was ever completed. The development was terminated on 24 March 1942 by an RLM order because the DFS 331 was thought to be too expensive.

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
DFS 331 V1	KC+HB	0001	General flight development	30.09.40	To Rechlin in Jan. 1941
DFS 331 V2	None	0002	Completed, but never flown	—	Scrapped after projected series was cancelled
DFS 331 V3	None	0003	Not built, only parts of the fuselage existed	—	Parts scrapped in 1941

DFS 332

Only one DFS 332 saw flight evaluation from February 1945. It was intended as a research aircraft to test various full-size wing design profiles in free flight after release from its parent aircraft. The ultimate fate of the rocket-powered DFS 332 prototype is still unknown.



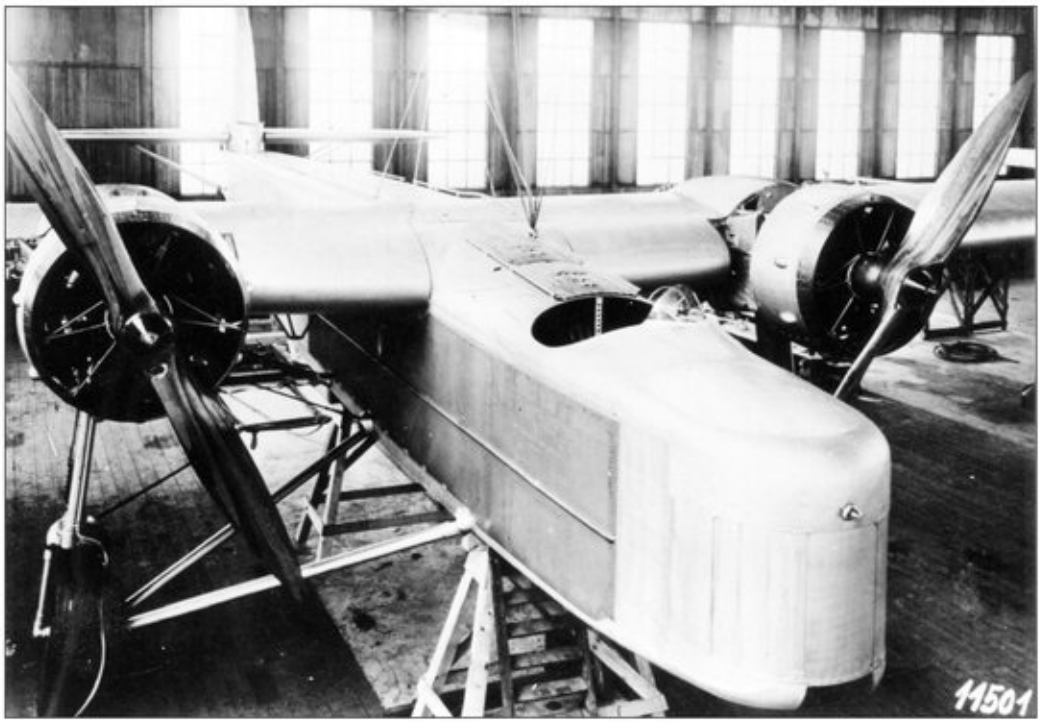
Only a mock-up of the experimental supersonic DFS 346 had been built by the end
of the war. The Soviets took over the project and later test-flew a completed example as the Type 346. ***(Schmitt)***

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
DFS 332 V1	None	0001	Not completed	—	Scrapped early 1945
DFS 332 V2	None	0002	Flight development	14.02.45	Unknown

DFS 346

The development of the DFS 346 supersonic prototype began in 1944 at Halle on the Saale. The first prototype aircraft was constructed there and handed over to ZAGI in the Soviet Union. From May 1949 first gliders known as the Type 346 were used for flight evaluation in the USSR.

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
346 – 1	None	Unknown	Flight development without rocket engine installed	30.09.49	Scrapped in 1953
346 – 3	None	Unknown	Prototype with rocket installation	15.08.50	Crashed on 14.09.50



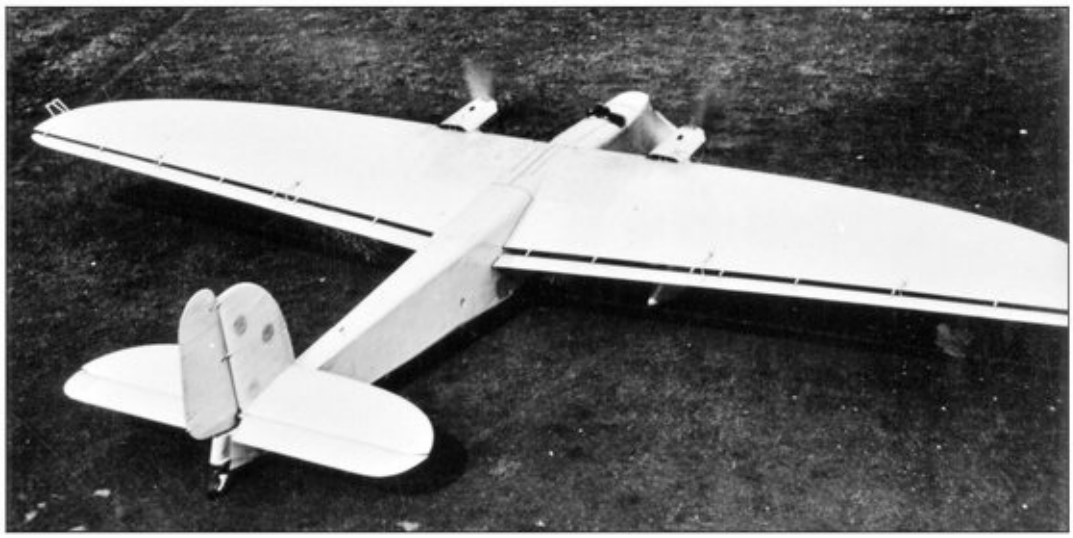
The Do 11 was the first heavy combat aircraft to be secretly operated by several civil
institutions and Deutsche Lufthansa. ***(Herwig)***

8.6 Dornier

Do 11

In 1932 the twin-engine Do D monoplane received the new designation Do 11. It was the first European design of a heavy bomber which was fitted with a fully retractable undercarriage. The main part of the evaluation of this new combat aircraft took place at Löwental near Friedrichshafen (by Dornier) and by Deutsche Lufthansa from 1932/33.

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Do 11a	D-2270 D-ABEL	230	Flight development, a/c, with two Siemens-produced Bristol Jupiter VI radial engines	1932	Unknown
Do 11b	D-2485 D-ADUL	231	Flight development, rebuilt as Do 13	1932	Unknown
Do 11c	D-3017 D-AFEZ	241	Flight development	1933	Unknown



The Do 13a was originally a rebuilt Do 11 prototype which promised better flight performance. ***(Dornier)***

Do 13

An advanced variant of the Do 11, the Do 13 included various modifications and replaced the former variants of the Do 11 with a new production series, of which the D variant became important for the Luftwaffe from 1934. The aircraft was used by all Behelfskampf-geschwader (auxiliary bomber wings) and also for crew training.

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Do 13a	D-2485	231	Flight development, later rebuilt as Do 13b, then as Do 13c, two Bristol Jupiter engines	13.02.33	See Do 13b
Do 13b	D-2485	231	Performance trials with Siemens Sh 22 engines	1933/34	See Do 13c
Do 13c	D-2485	231	Performance trials with BMW VIa engines	05.07.34	Handed over to RLM
Do 13d (DV1)	D-ABOS	Unknown	1st Do 13 D prototype	Unknown	Unknown
Do 13e	Unknown	350	Fitted with BMW VId, to become a first Do 13 E prototype	01.09.34	Unknown
Do 13f	Unknown	351	Later the prototype a/c became a first Do 23 F	Unknown	Unknown

Do 14

The prototype Do 14 was part of attempts by Dornier to building a large flying boat for service over the Atlantic Ocean. The project met many technical difficulties, flight evaluation was ended early in 1939 and the prototype was dismantled.

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Do 14	Unknown	234	Prototype for transatlantic flights	05.08.36	Scrapped after 25.04.39

Only one Do 14 (V1) was ever constructed. It was powered by two BMW VI engines

installed inside the fuselage. ***(Dornier)***

The crash of the first Do 17 (V1) caused only minor damage. ***(Dornier)***

Do 17

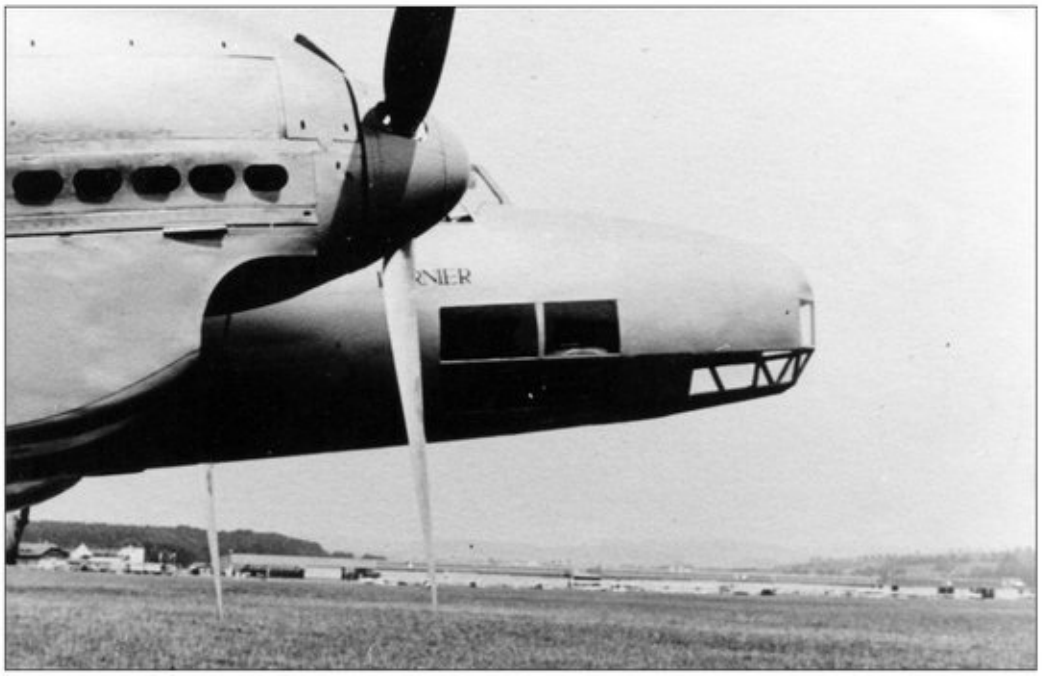
Plans to create a very fast bomber led to a first Do 17 prototype, whose flight evaluation began in 1934. More than twenty-five prototypes and many series aircraft were used for testing new components and installations before the first significant production models, the Do 17 E and F, came into service, These were both powered by two BMW VI in-line engines. The Do 17 M and P were equipped with two Bramo 132 and the Do 17 Z-1 to Z-10 got the more powerful Bramo 323 P Fafnir radial engines. The Do 17 Z especially was built in large quantities and saw extensive front-line service.

The Do 17 V3 (D-ABIH) carried a defensive gun sited in the dorsal position and was
powered by two BMW VI D engines. ***(Dornier)***

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Do 17 V1	D-AJUN	256	Flight development as a medium bomber, BMW VI	23.11.34	Crashed on 21.12.36
Do 17 V1E	D-AJUN	686	Replacement a/c for Do 17 V1, fitted with vertical bomb compartments in fuselage	Unknown	Unknown
Do 17 V2	D-AHAK	257	Improved bomber version, bombs fitted horizontally	Apr. 1935	Unknown
Do 17 V3	D-ABIH	258	Prototype a/c equipped with fixed 2 cm armament	18.09.35	Unknown
Do 17 V4	D-AGYA	654	Prototype a/c fitted with semi-fixed 2 cm armament	Apr. 1936	Unknown
Do 17 V5	D-AKOH	665	Civil airliner for Lufthansa, fitted with two Hispano Y	16.10.36	Unknown
Do 17 V6	D-AKUZ GL+AJ	656	Used as RLM transport a/c	Oct. 1936	Unknown
Do 17 V7	D-AOYK KD+NE	657	1st prototype of Do 17 E-2 series	Mar. 1937	Unknown
Do 17 V8	D-AXOM	658	1st reconnaissance a/c, with E3 flight guidance	19.09.36	Unknown
Do 17 V9	D-ABOY BC+DT	659	Used as RLM transport a/c	Oct. 1936	Unknown
Do 17 V10	D-AKUU PB+DK	660	2nd reconnaissance a/c based on Do 17 V8	Oct. 1936	Unknown
Do 17 V11	D-ATYA	681	Pre-series a/c for Do 17 F-2 series	Oct. 1936	Unknown
Do 17 V12	D-AKYU	682	2nd prototype of Do 17 E-2 series, later DB 600s	Dec. 1936	Unknown

Do 17 V4 (D-AGYA) was flown with a covered nose section to disguise the fact that the aircraft was designed as a combat type. ***(Dornier)***

The first Do 17 MV1 prototype was fitted with two DB 600/601 in-line engines. All other prototype and series aircraft received BMW 323 radials. ***(Nowarra)***



The conversion of the Do 17 was intended to be sold to foreign countries. The Do 17 K shown here appeared with a modified nose section. ***(Dornier)***

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Do 17 V13	D-ATAH	683	1st prototype a/c with two DB 600 engines	30.10.36	Unknown
Do 17 V14	D-AFOU	684	Special reconnaissance a/c fitted with BMW VI engines	Nov. 1936	Unknown
Do 17 V15	Unknown	816	Prototype Führerflugzeug, based on a Do 17 E-1	Feb. 1937	Unknown
Do 17 V16	Unknown	839	Medium bomber based on Do 17 E-1, fitted with BMW VI D	Apr. 1937	Unknown
Do 17 V17	Unknown	801	Prototype Do 17 E-1 used with improved wireless set	Jan. 1937	Unknown
Do 17 V18	Unknown	2021	Prototype Do 17 E-2 with two BMW 132 F engines	Apr. 1937	Unknown
Do 17 V19	Unknown	2022	Prototype Do 17 E-2 with two BMW 132 F engines	June 1937	Unknown
Do 17 V20	RJ+OK	2031	Prototype Do 17 E-2 with two Bramo 323 engines	May 1937	Unknown
Do 17 V21	Unknown	2032	Prototype Do 17 E-2 with two Bramo 323 engines	July 1937	Unknown
Do 17 MV1	D-AELE	691	1st prototype of Do 17 M-1, with two DB 600	Apr. 1937	Unknown

Possibly one of the rebuilt Do 17 ZV prototypes being inspected by a foreign delegation at Friedrichshafen. ***(Herwig)***

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Do 17 MV2	D-AUQO	682	2nd Do 17 M-1 with two Bramo 323 radial engines	Nov. 1937	Unknown
Do 17 MV3	D-AAOU	683	3d Do 17 M-1 experimental a/c fitted with Bramo 323 D radial engines	Unknown	Unknown
Do 17 ZV1	D-ABVD	2180	First prototype Do 17 Z-1, fitted with Bramo 323	Unknown	Unknown

Do 18 V3 (D-ABYM) belonged to the later E series of variants and was powered by two Jumo 205 C engines. ***(Dornier)***

Do 18

The Do 18 medium flying boat was developed for postal flight duties and simultaneously as an armed maritime reconnaissance type for long-range missions. Most of the examples built were powered by tandem-mounted Jumo 205 D diesel engines; later radial engines were also used. Most of the early test flights were carried out from Manzell. Military evaluation took place later at the E-Stelle Travemünde.

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Do 18a (V1)	D-AHIS	253	Flight development of A series, two Jumo V C	16.03.35	Destroyed on 2.11.35
Do 18b (V2)	D-ADIR DA+NF	254	1st prototype of C type, fitted with two Jumo 205 C	14.11.35	Unknown

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Do 18 V3	D-ABYM	661	1st prototype of E type, fitted with Jumo 205 C	03.10.36	Missing 31.07.37
Do 18 V4	D-AHOM	662	1st prototype of D-0 type, used for tests with a double fin section	09.05.36	Unknown
Do 18 V5	D-ARUN	663	2nd prototype a/c of E series, fitted with Jumo 205	16.07.36	Unknown
Do 18 V6	D-AROZ	255	3rd prototype a/c of E type, fitted with Jumo 205	24.02.37	Lost on 30.09.38
Do 18 V7	D-AANE	677	1st prototype a/c of F type, fitted with BMW 132 M	28.06.37	Last mentioned at FFS C17 in Pütnitz, Baltic Sea
Do 18 L (V8)	D-ANHR CO+JF	734	1st pre-series a/c of L series, fitted with BMW 132 M	21.11.39	Unknown

The first Do 18 L received two powerful BMW 132 M radial engines. ***(Dornier)***

Do 19

The Do 19 long-range bomber was powered by four radial engines, but supply difficulties with these did not allow large-scale production of this type without affecting the output of bombers like the He 111 or Ju 88, which were believed to be more important.

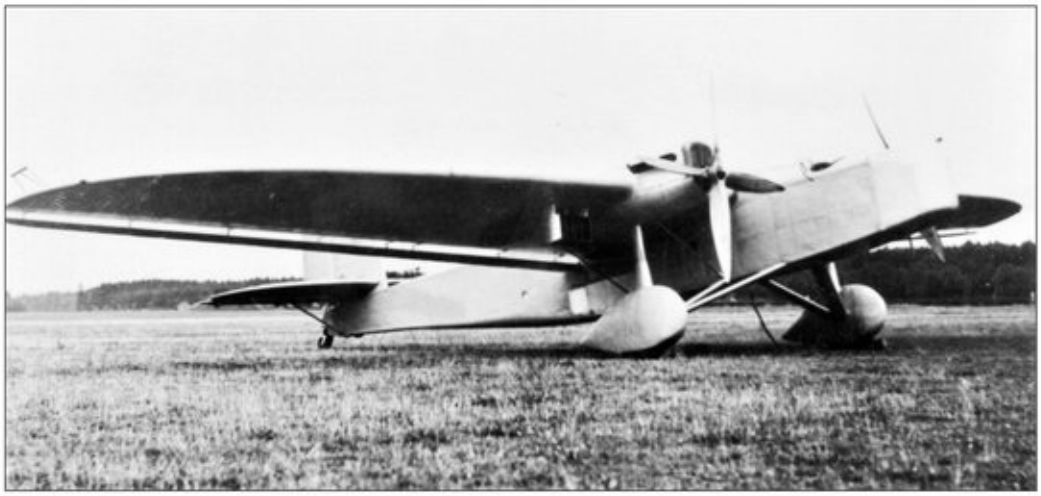
Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Do 19 SV1	D-AGAI	701	Flight development with four SAM 22 B engines	28.10.36	Scrapped
Do 19 SV2	—	702	No flight development with four BMW 132 issued	—	Scrapped
Do 19 SV3	—	703	Not completed	—	Parts scrapped

The development of the Do 19 was terminated due to the lack of resources. Therefore Do 19 V1 only flew a limited number of times. ***(Dornier)***

Do 23

The first two prototype aircraft of the planned Do 23 series were redesignated Do 13s fitted with two BMW VI D (Do 23 F) and BMW VI U (Do 23 G) engines. Although the H series received revised wings, neither the Do 23 H nor the versions Do 23 J to M were put into production because their performance compared unfavourably with the early Ju 86 and He 111 bomber variants.

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Do 23a (V1)	Unknown	350	1st Do 23 prototype, later called Do 23e, fitted with two BMW VId engines	01.09.34	Unknown
Do 23b (FV1)	Unknown	351	1st Do 23 F prototype, with metal wings and BMW VI U engines	Late 1934	Unknown
Do 23c (GV1)	Unknown	490	1st Do 23 G prototype, with BMW VI U engines	June 1935	Unknown
Do 23 HV1 to Do 23 HV3	Unknown	Unknown	1st to 3rd Do 23 H with new Rohrbach wings and BMW VI engines	1936	Unknown



The airframe of the prototype Do 13d was used to create the first Do 23a. ***(Dornier)***

Do 24

The Do 24 air-sea rescue and transport flying boat was built in noteworthy quantities. Besides four early prototypes tested from the Bodensee (Lake Constance) and by E-Stelle Travemünde, a few series aircraft were used for additional trials with advanced equipment, armament and radio sets during the war.

The first Do 24 (V1) was used for transport duties during the Norwegian campaign in 1940. ***(Selinger)***

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Do 24 V1	D-AIBE TJ+HR	760	Tactical development by KGr108 (See)	10.01.38	Emergency landing at Vardö on 18.09.40
Do 24 V2	DP+BH	782	Tactical development with Jumo 205 C engines	Feb. 1940	Last mentioned at Travemünde in 1940
Do 24 V3	D-AYWI	761	Handed over to Dutch after sea-landing trials	03.07.37	Destroyed by air raid on 03.03.1942
Do 24 V4	D-ADLP	762	Handed over to Dutch after technical development	Feb. 1938	Crashed on 24.04.41

Do 24 V4 during the final sea landing and take-off evaluation on the Baltic Sea. ***(Selinger)***

Do 26

Only six examples of the Do 26 long-range flying boat were built. All of them were given V numbers. After the first aircraft were used for postal duties over the Atlantic Ocean, they were employed by the Luftwaffe as transport and reconnaissance flying boats. Finally the surviving Do 26 V4 and V6 aircraft were scrapped because of a lack of spare parts.

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Do 26 V1	D-AGNT P5+AH	791	Flight development as prototype of version A	21.05.38	Lost over Norway on 28.05.40
Do 26 V2	D-AWDS P5+BH	792	Used as transport seaplane, version A	23.11.38	Shot down on 9.05.40
Do 26 V3	D-ASRA P5+CH	793	Used as transport seaplane, version B, but later became a C version	16.08.39	Lost over Norway on 28.05.40

The Do 26 was ordered for use on postal flights across the Atlantic. ***(Dornier)***

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Do 26 V4	PK+FF P5+DH	794	Used for military purposes with defensive armament first C, then D conversion	25.01.40	Sent to Luftfahzeurg-gruppe (See) on 13.05.44, later scrapped
Do 26 V5	P5+EH	795	Used for military purposes, C series aircraft	24.04.40	Lost during catapult take-off on 16.11.40

All Do 26s were taken over by the Luftwaffe shortly after the outbreak of war, among them
the V5, seen here on the catapult of the seaplane depot ship ***Friesenland****.*
(Dornier)

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Do 26 V6	P5+FH	796	Used for military purposes, first C, then D series a/c	30.07.40	Sent to Luftfahrzeug-gruppe (See) on 13.05.44, later scrapped

Do 212

The experimental Do 212 was built in Switzerland and did not meet its specification. Therefore all further work was terminated.

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Do 212 V1	HB-GOG	0001	Prototype flying boat fitted with HM 512 B-0	03.08.42	Unknown

Do 212 V1 was built in Switzerland but failed to live up to expectations.
(Dornier)

Do 215

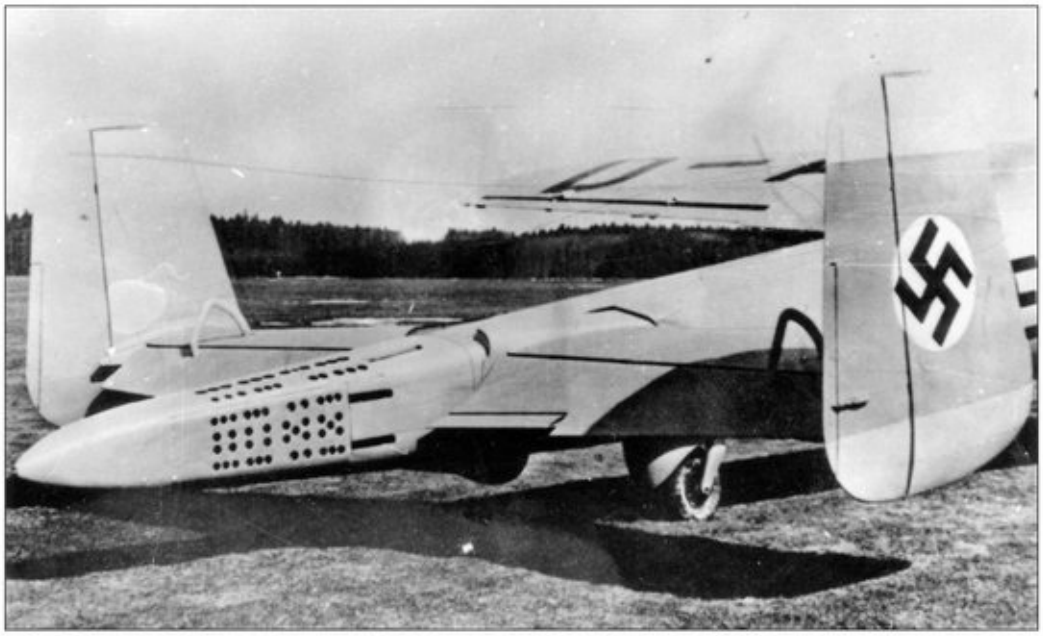
The Do 215 medium bomber was developed as a more advanced Do 17 Z variant fitted with two more powerful engines. A possibility initially considered was to build an export version fitted with foreign engines, but with two DB 600s the aircraft became a long-range reconnaissance aircraft suitable for the Fernaufklärungsgruppen of the Luftwaffe.

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Do 215 V1	D-AFFY	0001	Do 17 S-01 fitted with two two Bramo 323 A-1 Fafnir	29.10.38	Lost in 1939 crash
Do 215 V2	D-AIIB	0043	Do 17 Z-0 fitted with two Gnome-Rhône 14 VN radials, later flown with 14 N1/N2	1939	Unknown
Do 215 V3	D-AITB 25+C03	Unknown	Evaluation with two DB 600 A-1 engines, tested as pre-series a/c of Do 215 A-1	1939	Unknown
Do 215 V4	D-AVIB	Unknown	Evaluation of Do 215 B-1	1939	Unknown

The well-known Professor Claudius Dornier with his chief test pilot, Egon Fath, in front of an early Do 215 aircraft. ***(Dornier)***

Do 217

This twin-engine bomber was developed as a fast bomber from the Do 17 but with higher performance and a heavier payload. Later in the war, aircraft of the Do 217 E series became the first to perform the so-called Gleitbomber ('glide bomber') role and special-attack versions also carried the Hs 293 and PC 1400 X remote-controlled bombs. Most of the earlier series were powered by two BMW 801s. From the K series the type had a new cockpit section called the *Kampfkopf* (battle head). The next important variant, the M, was similar to the K, but was powered by two DB 603s. Later types, the high-altitude Do 217 P and the dive-bomber Do 217 R, were cancelled because there was no further use for them seen by the RLM. The Do 217 J and N heavy night-fighters only need a short evaluation phase because they were simply Do 217 E and M fuselages with a new fixed weapon compartment.

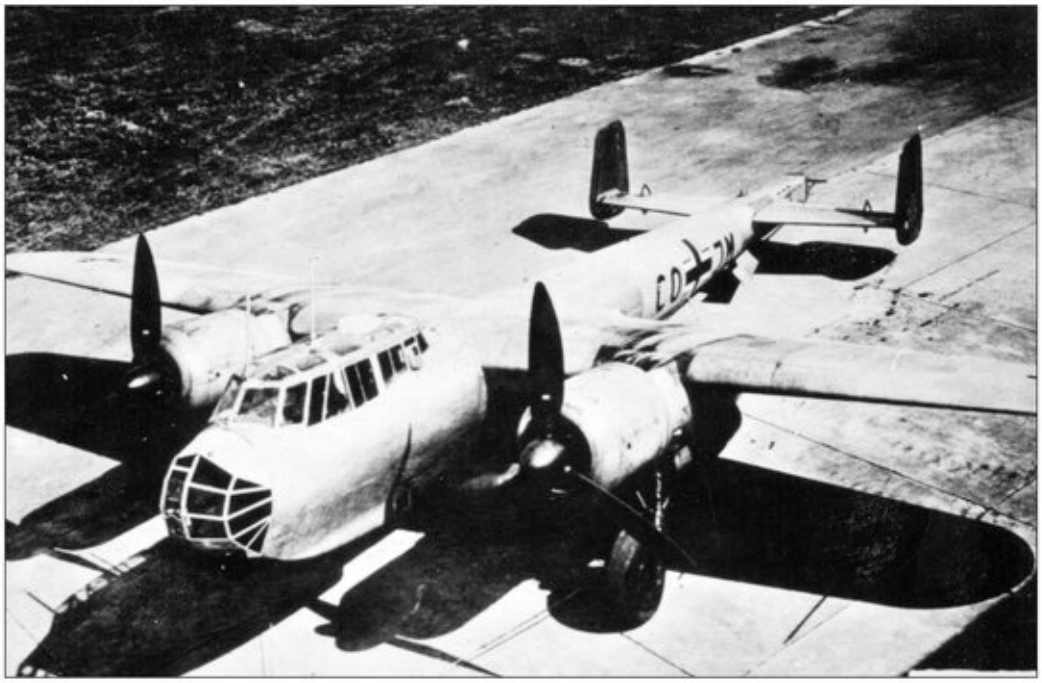


The first three Do 217 prototypes are believed to have been rebuilt Do 17 airframes.
Here Do 217 V3 displays its distinctive tail-mounted air-brake. ***(Selinger)***

The fourth prototype Do 217 (V4, D-AMSD) was equipped with an improved air-brake.
(Dornier)

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Do 217 V1	None	687	Flight development as a 'Schnellbomber', Jumo 211	04.10.38	Crashed on 11.10.38
Do 217 V1E	Unknown	694	General fight development	Late 1939	Unknown
Do 217 V2	D-ABWC CN+HJ	688	Flight development with two DB 601 A in-line engines	Early 1939	Scrapped after 29.10.42
Do 217 V3	D-ACDE CN+HK	689	Development of a triangular fin section	Early 1939	Last mentioned in 1942
Do 217 V4	D-AMSD CN+HL	690	Performance evaluation and armament trials	Mid-1939	Last mentioned in 1942
Do 217 V5	Unknown GM+AF	2703	Evaluation with two DB 601 Aa engines	Late 1939	Mentioned at Rechlin in summer 1941

Do 217 V6 (D-ADBE) later acquired the military code CO+JJ. It was equipped with two
DB 601 A-1 and two Jumo 211 B-1 in-line engines.



Do 217 V9 (CO+JM) became the forerunner of the Do 217 E-1 series. ***(Lutz)***

The first Do 217 E-2 prototype, Do 217 V11, was flown with two BMW 801 A-1s.
(Griehl)

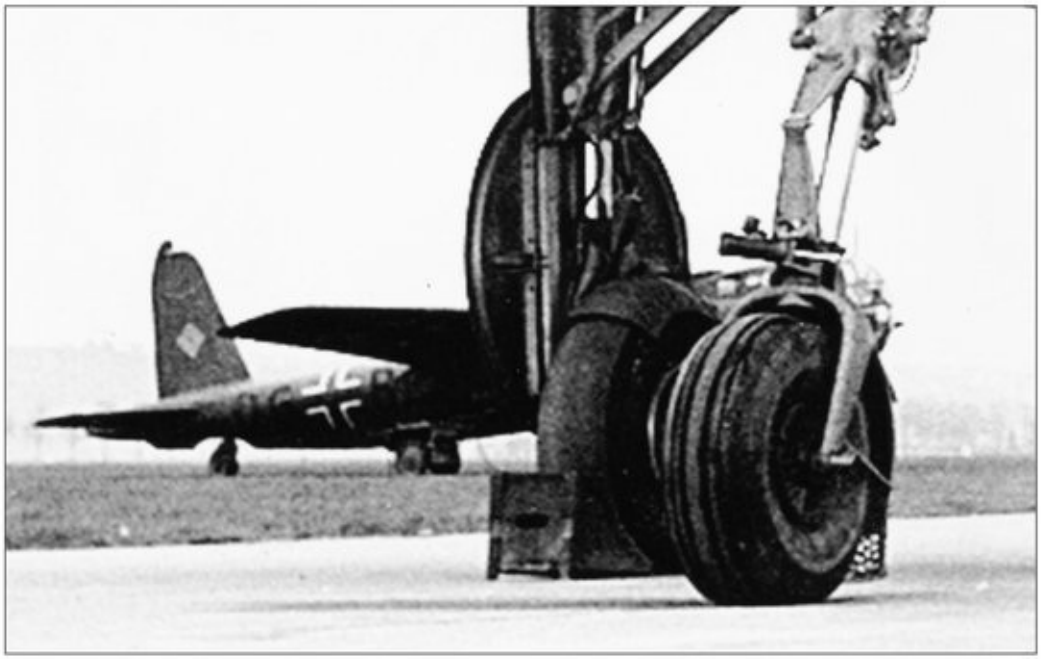
Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Do 217 V6	D-ADBE CO+JJ	2704	Fitted with a large bomb bay, fitted with two Jumo 211 B-1	Late 1939	Flown at Befehlsstelle Süd (Command Post South) after 30.12.42
Do 217 V7	D-ACBF CO+JK	2707	Fitted with two BMW 139s, then BMW 801s and de-icing	15.11.39	Last mentioned at Rechlin on 28.11.44
Do 217 V8	D-AHJE CO+JL	2708	1st pre-series Do 217 E-1, fitted with BMW 801 A-0	23.03.40	Last mentioned at Rechlin in Oct. 1943
Do 217 V9	Unknown CO+JM	2709	2nd pre-series Do 217 E-1 used with revised rudders	July 1940	Last mentioned 16.02.43
Do 217 V10	Unknown	2719	Prototype with BMW 801 B-1s, new heating system	Mid-1940	Last mentioned 4.12.41
Do 217 V11	Unknown	2720	1st pre-series Do 217 E-2, used for dive evaluation	24.03.41	Evaluation trials from Mar. 1942
Do 217 V12	Unknown	0520012	Evaluation of Doppelschlitz-Landeklappen (double-slotted flaps)	1941	Used for Ausbildungs-zwecke (training purposes) on 29.10.42
Do 217 V13	DB+BC	0520032	1st prototype a/c fitted DB 603 S and Tk 9	1941	Later became Do 217 RV4
Do 217 HV1	RD+OA	080021	1st engine development a/c fitted with DB 603 A	1941	Last mentioned 27.09.43

Do 217 HV3 served as a testbed fitted with two DB 603 engines, as seen here at Löwenthal airport near Friedrichshafen. ***(Lange)***

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Do 217 HV2	Unknown	080022	2nd engine development a/c fitted with DB 603 A-1	1941	Crashed on 25.10.41 due to propeller failure
Do 217 HV3	DD+LW	080023	3rd engine development a/c fitted with larger wings	May 1942	Captured at Eggebeck in May 1945
Do 217 JV1	GE+EA	1051	1st pre-series a/c of heavy night-fighter with FuG 202	15.03.42	Unknown
Do 217 KV1	RH+EI	1135	1st prototype a/c fitted with a new cabin section	31.03.42	At Rechlin on 3.07.42
Do 217 LV1	—	Unknown	1st prototype a/c with DB 603 H, not completed	—	Unknown
Do 217 MV1	BK+IS	1230	1st prototype a/c based on a rebuilt K-1 using DB 603 A-1	16.07.42	Last mentioned at Rechlin on 28.11.42
Do 217 NV1	GG+YB	Unknown	1st prototype a/c based on M-1, without C position	31.07.42	Unknown
Do 217 PV1	BK+IR	1229	1st high-altitude a/c based on Do 217 E-2, but with large wings	06.06.42	Destroyed in an air raid on 05.09.44
Do 217 PV2	DD+LX	1024	2nd high-altitude a/c, without HZ system (DB 603 S-0)	Late 1942	Destroyed in an air raid on 27.03.44 in France
Do 217 PV3	DD+LY	1025	3rd high altitude a/c, without HZ system	Mid-1943	Damaged in an air raid on 5.09.44

Development of piston-engine aircraft for high-altitude missions (like this pre-series
Do 217, SF+EA, which became a second PV1 prototype) was abandoned in favour
of the first jet aircraft. ***(Rohrbach)***

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Do 217 PV4	DD+LZ	1026	4th high-altitude a/c and pre-series a/c of Do 217 P-0	May 1943	Ordered to be scrapped after 24.04.44
Do 217 PV5	TC+ZA	1027	Not completed (95%)	—	Scrapped after 17.03.44
Do 217 PV6	TC+ZB	1028	Not completed (80%)	—	Scrapped after 17.03.44
Do 217 RV1	TC+ZC	1029	1st dive-bomber variant rebuilt from Do 217 E-1	06.08.42	Scrapped after 21.01.44
Do 217 RV2	DB+BA	1030	2nd dive-bomber, fitted with air brakes beneath wings	End 1942	Unknown
Do 217 RV3	DB+BB	1031	Not completed	—	Parts scrapped
Do 217 RV4	DG+BC	1032	Prototype fitted with a single fin	Early 1943	Last seen at Mengen, rebuilt to Do 217 M-8 standard



This unique photo taken at Mengen shows the fourth prototype, Do 217 RV4, of the
proposed dive-bomber series. The aircraft is seen partly obscured by the undercarriage of
the first Do 335.

Do 317

The Do 317 was proposed as a contender for the Bomber B heavy-bomber programme. It proved to offer performance little superior to that of the Do 217 and was abandoned as the war increasingly turned against Germany.

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Do 317 V1	VK+IY	Unknown	Flight development with two DB 603 A-1 engines	08.09.42	Aircraft scrapped
Do 317 V2	—	Unknown	Not completed	—	Parts scrapped

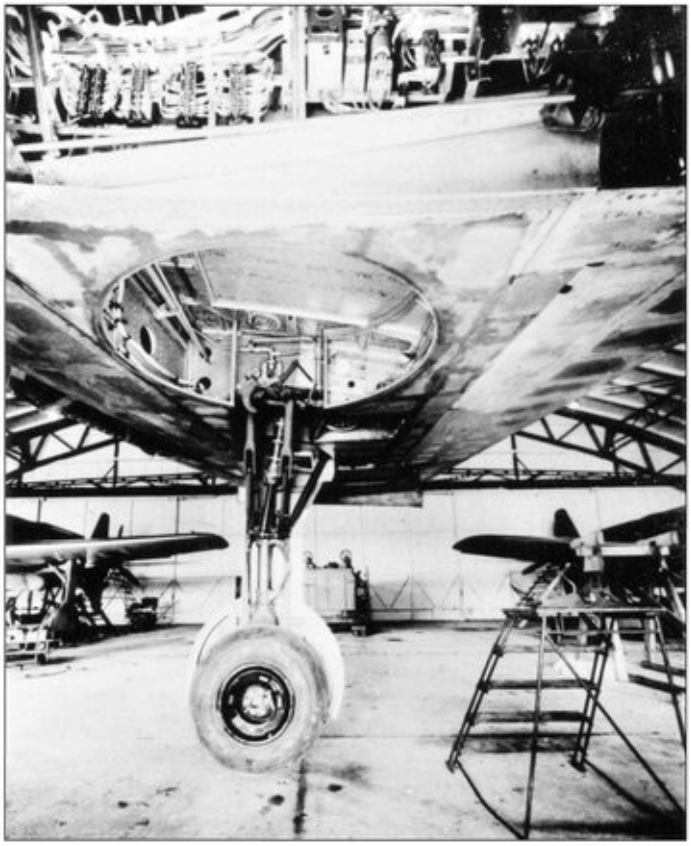
Only one Do 317 prototype, the V1, was ever completed because the Bomber B programme was ended by the RLM. ***(Dornier)***

Do 335

The Do 335 was developed after a Schnellstbomber (Ultra Fast Bomber) was demanded by the RLM on 28 September 1942. In September 1943 Hitler himself stated that the Do 335 was an important design, because progress with both the Ar 234 and Me 262 was still uncertain. Besides a fast bomber, an auxiliary destroyer, a night-fighter and several different reconnaissance versions were developed. Despite several losses during evaluation, small-scale production began in late 1944. The first night-fighter and heavy destroyer variants were built early in 1945, but never saw operational service.

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Do 335 V1	CP+UA	230001	Flight and engine development, later reconnaissance a/c	26.10.43	Unserviceable Feb. 1945 at Mengen/Württemberg
Do 335 V2	CP+UB	230002	Modification of rear cooling and performance evaluation	31.12.42	Crashed on 15.04.44
Do 335 V3	CP+UC	230003	Stability trials, installation of DB 603 E-1 and LA with GM 1	20.01.44	Crashed on 16.04.45
Do 335 V4/M4	CP+DU	230004	Performance trials and evaluation of larger wings	09.07.44	Shot down on 24.12.44

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Do 335 V5/M5	CP+UE	230005	Weapons trials, inclusive of two MK 103 fixed in wings	02.08.44	Last mentioned 01.03.45
Do 335 V6/M6	CP+UF	230006	Larger undercarriage and improved bombing system	23.03.44	Destroyed on 28.04.45 in Allied air raid
Do 335 V7/M7	CP+UG	230007	Performance and technical trials with DB 603 A	19.05.44	Captured by French forces on 23.04.45
Do 335 V8/M8	CP+UH	230008	Evaluation with DB 603 A-2, G-0 and finally E-2	31.05.44	Crashed in Mar. 1945 near Rechlin
Do 335 V9/M9	CP+UI	230009	1st pre-series a/c of Do 335 A-0 and A-1, two DB 603 E-1	29.06.44	Destroyed by bombs at Rechlin on on 10.04.45
Do 335 V10/ M10	CP+UK	230010	Evaluation as two-seat night-fighter	15.11.44	Captured by Russian forces on 25.04.45
Do 335 M11	CP+UL	230011	1st prototype a/c of Do 335 A-10 training a/c	11.10.44	Scrapped in Mar. 1945
Do 335 M12	RP+UO	230012	2nd prototype a/c of Do 335 A-0, fitted with DB 603 E-1	19.10.44	Captured on 26.04.45
Do 335 M13	RP+UP	230013	1st heavy destroyer prototype of Do 335 B-2 series	Nov. 1944	Destroyed on 26.04.45 by own forces



In this Dornier hangar three Do 335s were under construction, the V6 (left), the V3 (middle) and the V2 (right). ***(Dornier)***

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Do 335 M14	RP+UQ	230014	2nd heavy destroyer prototype of Do 335 B-2 series	08.08.45	Scrapped in Mar. 1949
Do 335 M14E	2401228	240118	Replacement a/c for Do 335 B-2 development	—	Scrapped in 1945/46
Do 335 M15	Unknown	240311	1st prototype of later Do 335 B-6 night-fighter	Oct. 1944	Scrapped in1945/46
Do 335 M16	Unknown	240312	2nd prototype a/c of later Do 335 B-6 night-fighter	02.04.47	Scrapped during Mar. 1949
Do 335 M16E	None	240320	1st pre-series a/c of Do 335 B-6, not completed	—	Scrapped in 1945/46
Do 335 M17	None	240313	2nd pre-series a/c of Do 335 B-6, not completed	—	Scrapped in 1945/46
Do 335 M18	None	240314	3rd pre-series a/c of Do 335 B-6, not completed	—	Scrapped in 1945/46
Do 335 M19	None	240315	4th pre-series a/c of Do 335 B-6, not completed	—	Scrapped in 1945/46
Do 335 M20	None	240316	5th pre-series a/c of Do 335 B-6, not completed	—	Scrapped in 1945/46
Do 335 M21	None	240317	1st pre-series a/c of Do 335 B-8, not completed	—	Scrapped in 1945/46

Only a limited number of two-seat training versions of the Do 335 A-0 were built. One of them was Do 335 VM (later M11) seen here on a foggy Mengen airfield. ***(Nowarra)***

Do 335 M13 became the forerunner of the Do 335 B-2 heavy destroyer series and was captured by French forces at Mengen. ***(Dornier)***

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Do 335 M22	None	240318	2nd pre-series a/c of Do 335 B-8, not completed	—	Scrapped in 1945/46
Do 335 M23	None	240319	3rd pre-series a/c of Do 335 B-8, not completed	—	Scrapped in 1945/46

Do 417

The Do 417 Arbeitsflugzeug (Work-horse Aircraft), an advanced medium combat aircraft with powerful engines and a massive defensive armament, was not built, because it could not operate in the face of overwhelming Allied airpower.

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Do 417 V1	—	—	Only mock-up built	—	—

Do 635

During design, development of the twin-fuselage, four-engined Do 635, based partly on the earlier Do 335 Z, was handed over to Junkers, who only completed

a single mock-up.

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Do 635 V1	—	—	Only mock-up built	—	—

None of the suggested prototypes of the three-seat Do 635 long-range reconnaissance aircraft were completed. Only a mock-up was built by the Junkers works. ***(Herwig)***

8.7 Fieseler

Fi 97

The Fi 97 single-engined sporting plane was powered by either an As 17 A or an HM 8 U in-line engine. The five Fi 97s competed in the 1934 Europa-Rundflug

(Round-Europe Rally) with noteworthy success.

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Fi 97 V1	Unknown	Unknown	General flight development	Apr. 1934	Unknown

The Fi 97 differed little from Willy Messerschmitt's Bf 108, which had a higher performance.
(Nowarra)

Fi 98

The Fi 98 took part with the Ar 81, Ha 137 and Hs 123 in a secret competition for a light dive-bomber and low-level attack aircraft from February 1934. Development of the Fi 98 was abandoned before summer 1936.

The development of Fieseler's Fi 98 light Sturzkampfbomber (dive bomber) was terminated in favour of the more modern Ju 87. ***(Kossin)***

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Fi 98 V1	None	Unknown	Flight development with one BMW 132 installed	15.07.35	Unknown
Fi 98 V2	Unknown	Unknown	2nd proposed aircraft with one Wright Cyclone radial	—	Scrapped
Fi 98 V3	Unknown	Unknown	3rd proposed aircraft with one BMW 132 installed, not built	—	Parts scrapped

Fi 99

Only one or at most a very few examples of the Fi 99 two-seat sporting aircraft were built and evaluated at Kassel. Their fate is unknown to this day.

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Fi 99 V1	D-EPWD	Unknown	Flight development with one HM 506 A installed	22.04.37	Unknown

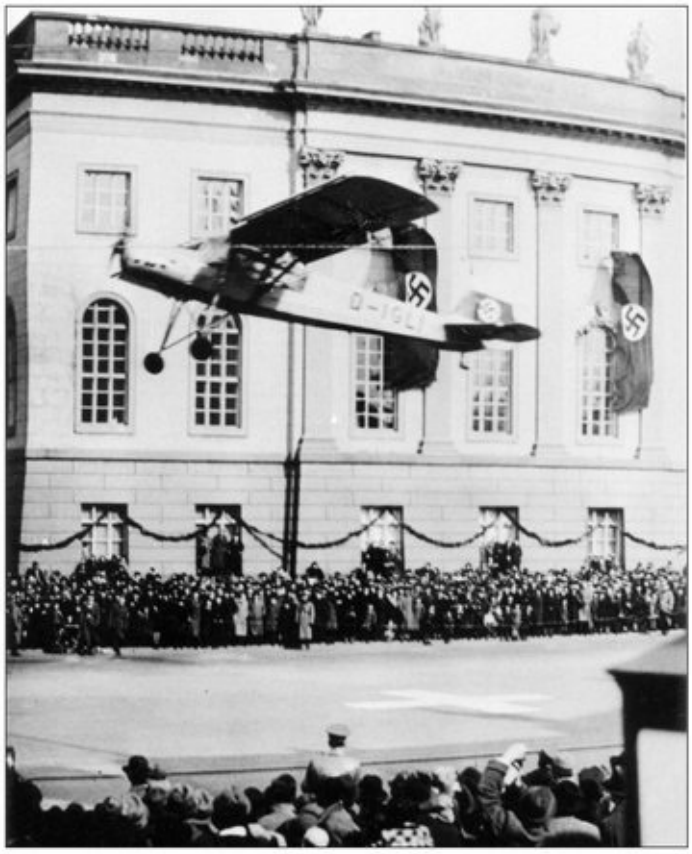
The Fi 99, a two-seat sporting plane, exhibited good flight behaviour. ***(Kossin)***

Fi 156 Storch

The RLM requested development of the Storch in autumn 1935, drawing on experience gained during the Europa-Rundflug of 1934. After trials at Kassel, the first Fi 156s were evaluated at Rechlin. After tests with Fi 156 V1 the wing layout was completely redesigned.

The first Fi 156 (V1, D-IBXY) differed significantly from the prototypes and series aircraft

that followed. ***(Lange)***



The second Fi 156 Storch (V2, D-IGLI) during an impressive demonstration in the streets of Berlin. ***(Griehl)***

The installation of a defensive weapon in the rear cockpit and a bomb-release system were tested later.

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Fi 156 V1	D-IBXY PO+AL	601	Flight development, later fitted with a new fin section	10.05.36	Last mentioned during Sept. 1939
Fi 156 V2	D-IGLI	602	Flight development with a revised undercarriage	Mid-1936	Damaged on 14.11.36, last mentioned 27.02.37
Fi 156 V3	D-IGOE	603	Evaluation by E-Stelle Rechlin with As 10 C	Nov. 1936	Unknown
Fi 156 (V4)	—	604	Static test-bed	End 1936	Possibly scrapped
Fi 156 (V5)	D-IYTQ	605	1st pre-series a/c of Fi 156 A-0	Early 1937	Unknown

Fi 157

The Fi 157 Zielflugzeug, a flying remote-controlled target, also called Sonderversuchs-flugzeug (Special Experimental Aircraft), was transported under the fuselage of an He 111 up to drop height. Possibly because flight behaviour did not meet the demands of the RLM, neither two further projected prototypes nor ten pre-series aircraft were finished in 1937.

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Fi 157 SV1	None	2001	Flight development as remote-controlled target a/c, later became Fi 158 SV1	Mar. 1937	Unknown
Fi 157 SV2	None	2002	Completed in 1937	Unknown	Scrapped
Fi 157 SV3	None	2003	Completed in 1937	Unknown	Scrapped

The single-seat Fi 158 V1 (D-EAEN) was damaged during flight evaluation. ***(Nowarra)***

Fi 158

Fieseler's second design of a flying target, the manned Fi 158, met the same fate as the Fi 157. After only a limited number of flights, the aircraft was destroyed.

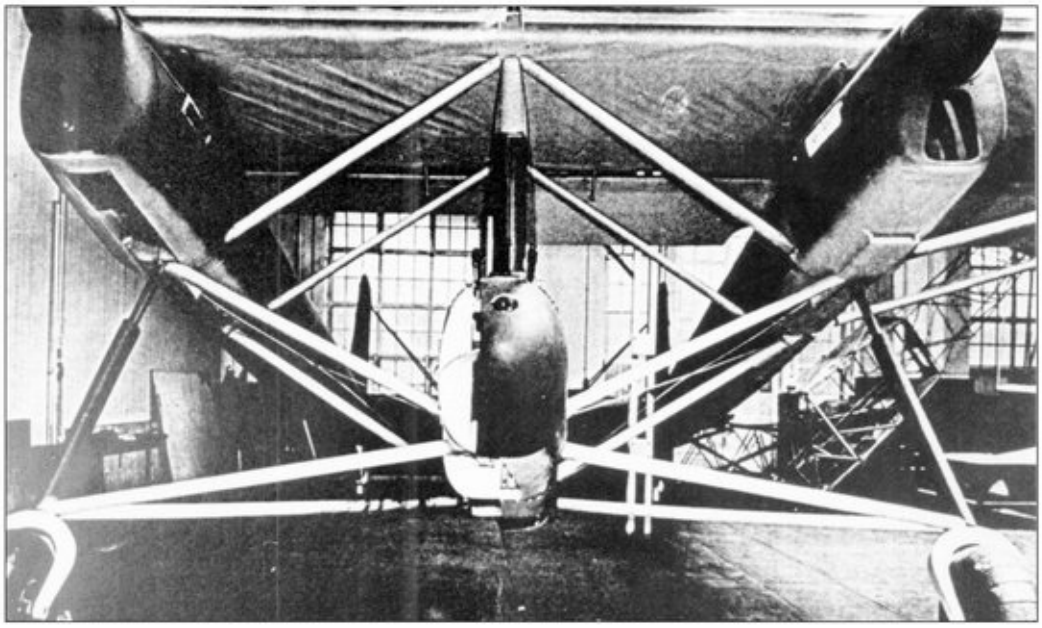
Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Fi 158 SV1	D-EAEN KD+NY	1001	Flight evaluation with HM 506 at E-Stelle Rechlin	Dec. 1937	Last known 29.08.39
Fi 158 SV2	—	1002	Possibly not completed	—	Scrapped

*Because the first German aircraft carrier, the **Graf Zeppelin**, was never finished, the Luftwaffe lost interest in the multi-role Fi 167 aircraft, all three prototypes of which featured folding wings. **(Kossin)***

Fi 167

After three Fi 167 prototypes were built, a further twelve carrier-borne Fi 167 A-0 pre-series aircraft were ordered by the RLM. The first flight took place in the summer of 1938 at Kassel and the first A-0 followed early in 1940. Most of them were used over the Netherlands coast and later were handed over to Croatia.

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Fi 167 V1	D-OCML TI+HT	2501	Flight evaluation with DB 601 A/B in-line engine	Mid-1938	Last mentioned on 07.05.40
Fi 167 V2	D-OFWP TA+AA	2502	Flight development, altered undercarriage and DB 601 B	1938	Last mentioned on 07.05.40
Fi 167 V3	D-OJBZ TP+AV	2503	Flight development and general equipment tests	1939	Last mentioned on 07.05.40



This photo of the Fi 168 mock-up shows to advantage the central fuselage pod known as the ***Panzerkästchen****, or 'armoured casket'.* ***(Herwig)***

Fi 168

Design of Fieseler's unorthodox, heavily armed and armoured Fi 168 low-level attack aircraft began in 1935, but was terminated on 31 March 1939 on the orders of the RLM, who preferred the Fw 189 project. Only a wooden mock-up was built.

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Fi 168 V1	—	Unknown	Only 10% complete in Sept. 1939	—	A/c was scrapped late 1939
Fi 168 V2	—	Unknown	Under construction in 1939 (5%)	—	Parts scrapped late1939
Fi 168 V3	—	Unknown	Under construction in 1939 (5%)	—	Parts scrapped late1939

Fi 253 Spatz

The Spatz (Sparrow) was a small two-seat sporting aircraft, of which only a limited number were built. Gerhard Fieseler suggested it as a cheap aircraft, something like a Volksflugzeug, to be built in huge quantities, Possibly only six prototypes were delivered.

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Fi 253 V1	Unknown	3001	General flight development	Unknown	Unknown
Fi 253 V2	Unknown	3002	Flight development with modified wings	Unknown	Unknown
Fi 253 V3	D-ERNQ	3003	Flight development	29.03.39	Unknown
Fi 253 V4	Unknown	3004	Flight development	Unknown	Unknown
Fi 253 V5	None	3005	Evaluation of folding wing structure	Unknown	Unknown
Fi 253 V6	Unknown	3006	Unknown	Unknown	Flown at Kassel on 22.01.42

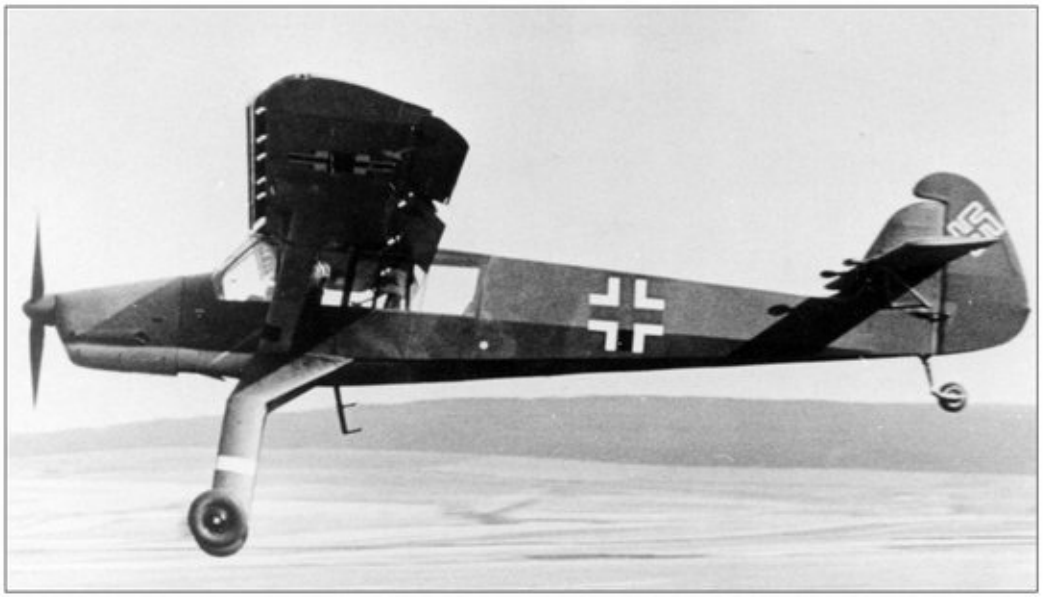
A small private plane, the Fi 253 only saw limited service. ***(Griehl)***

Fi 256

A design contract for the Fi 256 was issued in August 1940; one year later, the first prototype aircraft was tested at Kassel. The enlarged Fi 256 differed little from the Fi 156. Orders were given on 15 July 1943 to start series production at Budweis and possibly in France too. As Germany's war industries became weaker, the rate of production slowed more and more.

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Fi 256 V1	Unknown		General flight development	09.07.41	Unknown

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Fi 256 V2	CJ+UC		Flight development	10.12.41	Flown at Kassel on 19.09.42
Fi 256 V3	RH+DO		No details available	06.06.42	Unknown
Fi 256 V4	RH+DP		No details available	23.05.42	Flown at Kassel on 03.11.42
Fi 256 V5	NF+ST		Used for communication duties	27.01.43	Taken over by Luftwaffe 02.06.43
Fu 256 V6	NF+SU		Used for communication duties	23.07.43	Taken over by Messer-schmitt AG in July 1943



Because of insufficient production capacity, the Fi 256 advanced Storch was only
produced in limited numbers despite the good flight behaviour of Fi 256 V1 and other prototypes tested. ***(Lommel)***

8.8 Flettner

Fl 184

The Fl 184 autogyro prototype was developed by Anton Flettner Flugzeugbau GmbH from 1935. It was powered by an Sh 314 C radial engine and undertook its first trials at the end of 1936 at Berlin-Johannisthal. The RLM halted Fl 184 development in February 1937 but placed a new contract for two Fl 185s.

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Fl 184 V1	D-EDVE	Unknown	Flight development	1936	Destroyed in Dec. 1936
Fl 184 V2	—	—	Not completed, parts used in Fl 185 development	—	See Fl 185 V1

Fl 184 V1 (D-EDVE) was powered by a Sh 314 C radial. ***(Nowarra)***

Fl 185

The second Flettner prototype helicopter, the Fl 185, was developed from 1937. Unlike the Fl 184, Fl 185 retained an open cockpit. It became the forerunner of the Fl 265.

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Fl 185 V1	D-EFLT	Unknown	Flight development ceased due to Fl 265 programme	1937	Unknown
Fl 185 V2	None	Unknown	Not completed	—	Possibly scrapped
Fl 185 V3	None	Unknown	Not completed	—	Possibly scrapped

Fl 185 V1 (D-EFLT) was one of two planned prototypes. ***(Franzke)***

Fl 265

Developments achieved during testing of the Fl 265 included refinements to the cooling system initially and the transmission. Flight development ended early in 1942 with Fl 265 V6. The trials proved to be useful for the development of the following type, the Fl 282.

Fl 265 V1 showed good potential for a future operational career. ***(Franzke)***

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Fl 265 V1	D-EFLV	1579	Preliminary flight tests, later used for static tests only	Jan. 1939	Last mentioned on 29.02.40
Fl 265 V2	D-EFLU TK+AM	1580	Flight evaluation, later used for static transmission tests	03.05.39	Last mentioned on 01.11.40
Fl 265 V3	D-EDVE TK+AN	1581	Flight development	Early 1939	Crashed and completely destroyed on 21.08.39
Fl 265 V4	GI+SA	1582	Used for tactical tests on board cruiser *Köln*	20.11.40	Last mentioned on 04.12.41
Fl 265 V5	GI+SB	1583	No data available	23.11.40	Last mentioned on 26.11.41
Fl 265 V6	GI+SC	1584	No data available	14.12.40	Last mentioned on 26.03.42

Fl 282 V7 could carry a passenger in an open compartment to the rear of the powerplant. ***(MBB)***

Fl 282

Production of the Fl 282 comprised a minimum of twenty-four completed helicopters. More were under construction but remained incomplete at war's end because of missing parts, The Fl 282 was tested at Johannisthal, Schweidnitz and by E-Stelle Travemünde. Finally, very difficult trials were carried out by Transportstaffel 40 in the Alps late in the war.

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Fl 282 V1	GF+YA	Unknown	General flight development and 100 hr transmission-test	15.08.41	Last mentioned on 31.11.41
Fl 282 V2	GF+YB	Unknown	Flight development from Nov. 1941 by Flettner, then used for static tests	30.10.41	Last mentioned on 01.11.40
Fl 282 V3	GF+YC	Unknown	Glazed cabin structure enlarged fin and fuselage	02.12.41	Last flight on 31.01.44
Fl 282 V4	GF+YD	Unknown	Static test-bed used by Flettner from 24.11.41	—	Later scrapped
Fl 282 V5	GF+YE	280001	Tactical trials belonging to Großversuch See (Major Sea Trial), first Fl 282 B-0	08.01.42	Last flight on 15.09.43
Fl 282 V6	GF+YF	280002	Ship-borne development 1942–43	11.05.42	Crashed on 10.05.43
Fl 282 V7	CJ+SA	280003	Used as training a/c until 16.09.43	22.05.42	Last flown on 26.08.43
Fl 282 V8	CJ+SB	280004	General flight test, later used as static transmission test-bed	26,06.42	Last flown on 24.09.42
Fl 282 V9	CJ+SC	280005	Flight trials carried out by E-Stelle See. Travemünde	15.01.43	Last flown on 19.03.43
Fl 282 V10	CJ+SD	280006	Tactical trials by Luftwaffe	20.09.42	Captured by British forces early in 1945

Fl 282 V23 was one of the few helicopters operated by the Luftwaffe at the end of the Second World War. ***(Handig)***

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Fl 282 V11	CJ+SE	280007	Used as training helicopter	03.11.42	Destroyed on 8.05.45
Fl 282 V12	CJ+SF	280008	Short take-off development from Apr. 1942	12.12.42	Captured by US forces 1945
Fl 282 V13	CJ+SG	280009	Development with a revised rear fuselage section	02.03.43	Unknown
Fl 282 V14	CJ+SH	280010	Luftwaffe tactical trials ordered 1942	Unknown	Unknown
Fl 282 V15	CJ+SI	280011	Development of inverted sense of rotation	31.03.43	Unknown
Fl 282 V16	Unknown	280012	No data available	23.08.43	Possibly captured by Soviet ground forces 1945
Fl 282 V17	CJ+SK	280017	Landing tests on ships	01.06.43	Damaged on 13.04.44
Fl 282 V18	CJ+SL	280018	Tested by E-Stelle See at Travemünde, Oct. 1944	30.07.43	Unknown
Fl 282 V19	CJ+SM	280019	2nd helicopter with altered rear fuselage section	28.09.43	Crashed on 10.11.44
Fl 282 V20	CJ+SN	280020	Military trails by Shipboard Squadron 3./196	26.11.43	Damaged on 20.12.43
Fl 282 V21	CI+TU	280021	1st two seat variant of Fl 282 B-2 series variant	04.05.44	Unknown
Fl 282 V22	Unknown	280022	No data available	Unknown	Unknown
Fl 282 V23	CI+TW	280023	2nd two seat variant of Fl 282 B-2 series variant	Unknown	Survived war and became exhibit at Dayton, Ohio
Fl 282 V24	CI+TX	280024	No data available	Unknown	Unknown

8.9 Focke-Achgelis

Fa 223

Some fifty-four prototype Fa 223 helicopters were projected but only a very few were completed. Evaluation took place at Hoyenkamp, Laupheim, Berlin-Tempelhof and by various Luftwaffe units, including Erprobungskommando 24 and Transportstaffel 40, which both carried out tactical trials over the Alps.

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
		223			
Fa 223 V1	D-OCEB	00001	Ground and flight development	08.03.40	Crashed on 05.02.41 killing Dr.-Ing. Heinz Bär
Fa 223 V2	D-OCAW	00002	Flight development	20.04.42	Destroyed on 04.06.42 by Allied bombs
Fa 223 V3	Unknown	00003	Replacement a/c	21.09.40	Later became a new V2

After the loss of several Fa 223s, the V11 prototype played an important part in the technical development of this two-seat helicopter. ***(MBB)***

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Fa 223 V4 to Fa 223 V10	—	00004 to 00010	Helicopters in different stages of development	—	Destroyed by enemy action on 04.06.42
Fa 223 V11	DM+SO	00011	General flight development	05.02.43	Captured at Travemünde Apr. 1945
Fa 223 V12	DM+SP	00012	Tactical use by Erprobungs-kommando 24	02.04.43	Crashed on 04.12.43 at Chamonix, France
Fa 223 V13	DM+SQ	00013	Evaluation with Bramo 323 D radial engine	30.07.43	Destroyed by bombs on 16.07.44
Fa 223 V14	DM+SR	00014	Used for Hochgebirgs-erprobung ('high mountain tests')	19.08.43	Used by Erprobungskdo Jüterbog early in 1945, crashed on 03.10.1945
Fa 223 V15	DM+SS	00015	Evaluation with FuG 101	21.10.43	Destroyed by bombs on 16.07.44
Fa 223 V16	DM+ST	00016	Used for Hochgebirgs-erprobung	11.04.44	Destroyed by own crew on 24.04.45
Fa 223 V17	DM+SU	00017	Flight development at Laupheim	28.03.44	Destroyed by bombs on 17.07.44
Fa 223 V18	DM+SV	00018	Completed but not flown	—	Destroyed on 18.07.44 by enemy action
Fa 223 V19 to Fa 223 V 32	None	00019 to 00032	Bombed during production	—	Remains scrapped

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Fa 223 V33 to Fa 223 V50	None	00033 to 00050	Not produced due to course of war	—	Several parts scrapped
Fa 223 V51	GW+PA	00051	Used for operational trials	06.02.45	Captured by US forces
Fa 223 V52 to Fa 223 V54	Unknown	00052 to 00054	Completed but not flown	—	Captured by Soviet forces

To demonstrate helicopter capabilities, Fa 223 V14, from the E-0 series, was used to recover engines from a crashed Do 217 K-2. ***(MBB)***

Fa 330

The small Fa 330 failed to meet the Kriegsmarine's needs because all operations depended on the direction of the wind and the performance of the towing vessel. In the face of overwhelming Allied naval forces, handling the Fa 330 on board a U-boat was too time-consuming. After a few prototype trials, small helicopters like the Fa 330 were abandoned.

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Fa 330 V1	None	100001	Tested in the wind tunnel at Calais-Meudon	Mid-1942	Unknown
Fa 330 V2	None	100002	Vehicle-towed tests on the Reichsautobahn	04.06.42	Unknown
Fa 330 V3 to Fa 330 V20	None	100003 ff.	Pre-series helicopter of Fa 330 A-0 conversion	1942/43	Unknown

Two different versions of the Fa 330 Bachstelze were tested; one with a wheeled undercarriage and another fitted with small skids. ***(MBB)***

8. 10 Focke-Wulf and Tank

Fw 44 Stieglitz

The Fw 44, a two-seat training biplane, saw widespread service in Luftwaffe training units and was built in large numbers. It was designed by Kurt Tank and Ludwig Mittelhofer. Its evaluation at Bremen ended in late 1933. Later tests were carried out by the RDL and possibly by E-Stelle Rechlin. A few Fw 44s were used for communication duties.

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Fw 44a (V1)	D-2409 D-EUGO	154	Flight development with an Sh 14a radial engine	Mid-1932	Unknown
Fw 44b (V2)	D-2465	155	Flight development after alterations, later acrobatic and low spin tests	Unknown	Fatal crash near Rechlin on 5 or 18 Sept. 1933
Fw 44 V3	D-2613 D-ESYK	156	Pre-series development with lengthened fuselage	12.08.33	Unknown
Fw 44 V4	D-2621 D-EGEF	164	Prototype with As 8 B in-line engine	11.5.34	Unknown
Fw 44 V5	D-ETAX	Unknown	Evaluation with HM 501 A in-line engine	Unknown	Unknown

Fw 44a (V1) was one of two Fw 44a aircraft tested at Bremen from 1932. ***(Nowarra)***

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Fw 44 (V6)	D-ENGO	Unknown	Evaluation with Menasco C4S engine (Fw 44 M)	Unknown	Unknown
Fw 44 (V7)	D-EHVA	Unknown	Evaluation with Bramo 325 radial, Fw 44 N series	Unknown	Unknown

Fw 44 B (V4) was handed over to the DVS (German Commercial Pilot's School) after its evaluation as an Fw 44 C was finished. (Deutsche Lufthansa)

Fw 55

The AL 105 B training plane was tested with two floats fitted under the main part of the fuselage.

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Fw 55 W (V1)	D-2711	Unknown	Flight development	Unknown	Unknown

The Fw 55 W, a renamed Albatross AL102 B, was flown as a light seaplane. ***(Griehl)***

Fw 56 Stößer

Together with the He 76 and others, the single-seat Fw 56 took part in a competition to produce both a modern trainer and a light home-defence fighter. It was first tested by Focke-Wulf at Bremen and later by RDL pilots. It could carry one or two fixed MG 17s. Finally trials were carried out with a rocket engine fixed inside the rear fuselage.

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Fw 56a (V1)	D-ISOT	2007	Flight development with wooden wings and AS 10 C	Nov. 1933	Unknown
Fw 56b (V2)	D-IIKA	2008	Flight development with metal structure and new undercarriage and wings	End 1933	Unknown
Fw 56 V3	D-ILAR	Unknown	Revised construction with improvements	1934	Unknown

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Fw 56 V4	D.IIAU	Unknown	1st pre-series a/c: Fw 56 A-01; with armament	Feb. 1934	Unknown
Fw 56 V5	D-IJKI	Unknown	2nd pre-series a/c: Fw 56 A-02	1934	Unknown
Fw 56 V6	D-IXYO	Unknown	3rd pre-series a/c: Fw 56 A-03	1934	Unknown

The second Fw 56 featured an early spatted main undercarriage. ***(Griehl)***

With its two Jumo 210 in-line engines, the Fw 57 V1 heavy fighter was seriously underpowered and development was subsequently abandoned. (Focke-Wulf)

Fw 57

The Fw 57 Flugzeugzerstörer (‘destroyer aircraft’) competed against the Bf 110 and Hs 124 but was not chosen because of the better performance of the Messerschmitt design. On 20 January 1937 the Fw 57 was designated a Sonderentwicklungsflugzeug (‘special development aircraft’) but a few weeks later all work was terminated.

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Fw 57 SV1	Unknown	Unknown	Flight development until 1937	June 1936	Unknown
Fw 57 SV2	None	Unknown	Not completed	—	Scrapped
Fw 57 SV3	None	Unknown	Not completed	—	Scrapped
Fw 57 SV4	None	Unknown	Development cancelled on 21.03.37	—	Scrapped

Fw 58 Weihe

The Fw 58 was developed to be both a civil and a military training aircraft. It was powered by two in-line engines. After first successful trials carried out at

Bremen, the aircraft was used for testing navigation/autopilot systems at Rechlin and also for trials with different engines. This very reliable aircraft was extensively used by various flying schools.

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Fw 58 V1	D-ABEM	451	Prototype training a/c basing on DVL standards	18.01.35	Rebuilt as liaison a/c after 25.03.39

The first Fw 58 (V1) Weihe was planned as a civilian training type for future crews of twin-engined aircraft. (Focke-Wulf)

The Fw 58 V2 Schulbomber was armed with MG 15 machine guns fitted in two open gun positions. (Focke-Wulf)

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Fw 58 V2	D-ABIV	452	Flight development of a Schulbomber ('school bomber') version	12.06.35	Used by E-Stelle Rechlin until Apr. 1936
Fw 58 V3	D-ABUO	453	2nd prototype training a/c with a new fin section	Nov. 1935	Transferred to DVL in Dec. 1936
Fw 58 V4	Unknown	1833	Used a liaison a/c by RLM	Oct. 1936	Unknown
Fw 58 V5	D-ODUY	1970	Prototype with door on right side of fuselage	07.01.36	Transferred to Hansa Luftbild, an aerial photography company on 10.03.39
Fw 58 V6	Unknown	1199	Pre-series a/c of Fw 58 B-0, later became B-1 standard	20.01.35	Last reported 1937
Fw 58 V7	—	—	Possibly not built	—	—
Fw 58 V8	—	—	Possibly not built	—	—
Fw 58 V9	D-ODFN	2879	Evaluation with floats and stronger wings	Early 1939	Last reported mid-1939
Fw 58 V10	—	—	Possibly not built	—	—
Fw 58 V11	—	—	Possibly not built	—	—
Fw 58 V12	D-OVDE	2706	Prototype of a weather observation aircraft	03.02.38	Later used by weather centre at Berlin-Tempelhof
Fw 58 V13	D-OTRE	3100	Prototype of an airliner with HM 508 D	19.11.36	From 1942 flown as Fw 58 KL-1 by Lufthansa
Fw 58 V14	D-OPDR	3101	Boundary layer suction trials by AVA (Aerodynamic Experimental Institute)	1937	Last mentioned at AVA early in 1940

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Fw 58 V15	D-ONBR DK+VK	2679	Prototype airliner built for Lufthansa	1937	Became property of the Luftwaffe on 12.09.43
Fw 58 V16	Unknown	2180	Used as a liaison a/c	1939	No further details
Fw 58 V17	Unknown	Unknown	Used as a special liaison a/c	1939	No further details
Fw 58 V18	D-OXLR	2207	Fw 58 C-2, used for nose-wheel and aerial refuelling trials with Ju 290 A	1939	Flown in Sept. 1942
Fw 58 V19	D-OWNG	Unknown	Rebuilt Fw 58 C-2 series a/c used for wireless op. duties	1939	Transferred to Lufthansa in 1939
Fw 58 V20	—	—	Possibly not built	—	—
Fw 58 V21	D-OXTA	Unknown	Evaluation of bombsights and new navigation system	1939	Operated by E-Stelle Rechlin
Fw 58 V22	—	—	Possibly not built	—	—
Fw 58 V23	D-OHIC WL-OHIC	Unknown	Prototype training a/c without a weapon position	1939	Later operated as a bomber crew trainer

Fw 61

To develop his helicopter design ideas Henrich Focke designed the Fa 61, which later became the Fw 61. This was based on the Fw licence-built C 19 and C 30 Cierva autogyros. Only two helicopter prototypes were built but their performance was unremarkable.

The first Focke-Wulf helicopter, Fw 61 V1, was initially called the Fa 61, because it was developed by Professor Focke in association with Gerd Achgelis. ***(Griehl)***

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Fw 61 V1	D-EBVU	931	Flight development with Sh 314 E radial engine	26.06.36	Destroyed on 4.06.42 by Allied bombs
Fw 61 V2	D-EKRA	1789	Flight development and pilot training	Early 1937	Possibly captured by French forces early 1945

The second Fw 61 (V2) was demonstrated during mass Nazi Party events, as shown here over Nuremberg Stadium. (Focke-Wulf)

Fw 62

The Fw 62 was designed to be a shipborne reconnaissance aircraft. In its competition with the Ar 85 and He 60, the Heinkel design came out the winner.

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Fw 62 V1	D-OFWF D-ICDS	2062	Flight development as a ship-borne recce a/c with two floats	03.10.37	Sunk on 26.09.39 at Travemünde
Fw 62 V2	D-OKDU	2063	2nd prototype with two floats	1938	Flown by Kurt Tank in Mar. 1938, later scrapped
Fw 62 V3	D-OHGF	2054	1st prototype a/c with a central float	1938	Damaged on 26.05.39, later scrapped
Fw 62 V4	D-OMCR D-IMGD	2065	2nd prototype a/c with a central float	1938	Damaged on 26.05.39, later scrapped

Fw 62 V3, one of only four prototypes, was designed as a shipborne reconnaissance aircraft in competition with the He 60 and others. (Focke-Wulf)

Fw 159

The Fw 159 failed in the competition for a single-seat fighter aircraft to replace all biplane fighters of the Luftwaffe. It had severe problems with its retractable undercarriage and lower performance than the Bf 109. Development was quickly halted by the RLM.

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Fw 159 V1	D-IUPY	932	Flight development with Jumo 210 D in-line engine and improved undercarriage	Jan. 1937	Scrapped by order of RLM after 15.11.42
Fw 159 V2	D-INGA	933	Flight development with Jumo 210 G in-line engine	June 1936	Landing accident on 18.01.38
Fw 159 V3	D-ISXI	1246	Development with revised undercarriage	Oct. 1936	Scrapped end of 1942
Fw 159 V4	D-IGQO	Unknown	1st pre-series prototype of three Fw 159 A-0 a/c	Unknown	Scrapping ordered by RLM on 15.11.42

Fw 186

The Fw 186 was developed out of the Fw 61 (see above) via the Fw 161, but its performance and flight behaviour were too poor for it to be introduced by the Luftwaffe.

The Fw 159 (V4 shown) lost the fighter competition won by the Bf 109. (Focke-Wulf)

Development of advanced autogyros like the Fw 186 was cancelled because conventional helicopters such as those proposed by Flettner were more powerful. (Focke-Wulf)

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Fw 186 V1	D-ISTQ	1971	1st prototype, general flight development	27.07.38	Scrapped after 18.03.40
Fw 186 V2	None	1972	2nd prototype helicopter	Sept. 1939	Scrapped after 18.03.40

Fw 187

As a well-armed twin-engine fighter plane, the Fw 187 was constructed to complement the in-service single-seat fighters with longer endurance. Development was halted on 31 August 1943 because aircraft like the Fw 187 could not achieve air superiority since the available engines, like the DB 601 or Jumo 210, did not produce enough power.

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Fw 187 V1	D-AXAK	949	Flight development with two Jumo 210 D in-line engines	10.04.37	Fatal crash on 14.05.38
Fw 187 V2	D-AZAX D-ANNA	950	Prototype single-seat heavy fighter with Jumo 210 D	14.06.37	Delivered to RLM on 02.09.39
Fw 187 V3	D-AODE	1707	Prototype with Jumo 210 G engines, single-seat fighter	July 1938	Crashed in Oct. 1939, engine fire
Fw 187 V4	D-ORHP	1976	Pre-series prototype of two-seat Fw 187 B-0	27.10.38	Scrapped late 1939
Fw 187 V5	CI+NY	1976	Prototype a/c used for DB 601 V trials	Oct. 1939	Last mentioned Feb. 1942
Fw 187 V6	GN+AG	1974	Prototype a/c used for weapons installation	Unknown	Scrapped in Oct. 1942

The Fw 187 showed good potential, but was produced in limited numbers compared to the Bf 110. (Focke-Wulf)

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Fw 187 V7	Unknown	1977	Record a/c, then rebuilt as Fw 187 B-0, then equipped with a hot-air cooling system	Oct. 1939	Development ended in Feb. 1942
Fw 187 V8	—	0001	Pre-series a/c of proposed Fw 187 C-0 offensive destroyer	—	Not finished

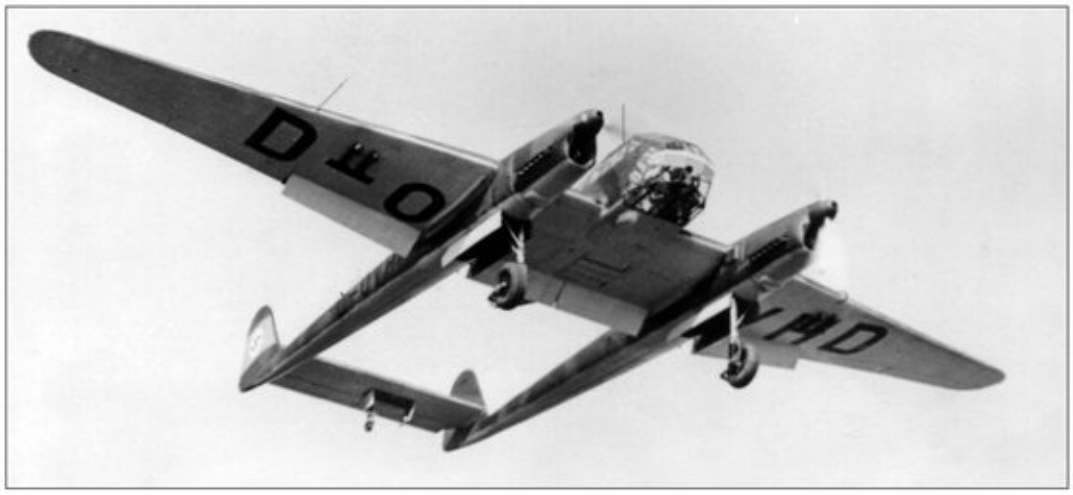
Originally conceived as a short-range reconnaissance aircraft, when Fw 189 V1 was
modified for the close-support role its extensively glazed central fuselage was replaced
by a small armour-plated cabin housing the pilot and rear gunner. (Focke-Wulf)

Fw 189

The Fw 189 tactical reconnaissance aircraft provided an outstanding field of vision for all its crew members and was well armed. It was tested by Focke-Wulf near Hannover. One aircraft (GN+AI) was flown at Rechlin early in 1940. The last prototype airframes were used to test the Argus As 411 in-line engine and other new engines from French sources.

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Fw 189 V1	D-OPVN	1997	General flight development propelled by two HM 512 in-line engines; three times rebuilt	23.07.38	Scrapping order dated 7.07.1939; Fw 189 V1c not completed
Fw 189 V1a	D-OPVN/ GN+AI				
Fw 189 V1b	D-OPVN				
Fw 189 V2	D-OVHD	1998	Prototype with metal VDM airscrews, and armament	Aug. 1938	Scrapping order dated 7.02.40
Fw 189 V3	D-ORMH TP+AW	1999	Evaluation with two As 410 A-0 in-line engines	Sept. 1938	Scrapping order dated 7.02.40
Fw 189 V4	D+OCHO	0001	Pre-series a/c of Fw 189 A-0	July 1939	Handed over 03.11.39
Fw 189 V5	BQ+AZ	0010	Prototype training a/c, designation Fw 189 B-0	End 1939	Last mentioned in Oct. 1940 at Bremen

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Fw 189 V6	D-OGAB GD+FA	0016	Prototype ground-attack a/c with armoured cabin	May 1940	No further details available
Fw 189 V7	—	0028	1st floatplane prototype, not completed, D series	—	Proposed to become a static test-bed
Fw 189 V8	—	0029	2nd floatplane prototype, not completed, D series	—	Proposed to become a Fw 189 B-0
Fw 189 V9	Unknown	0032	1st prototype a/c of Fw 189 A-1 series	Mid-1940	Unknown
Fw 189 V10	D-OHVC BQ+AW	0006	Evaluation of Fw 189 A-0 series and equipment	Late 1940	Unknown
Fw 189 V11	BQ+AX	0007	1st series prototype of proposed Fw 189 C-1	Late 1940	Unknown
Fw 189 V12	—	—	Not produced		— —
Fw 189 V13	—	—	Not produced		— —
Fw 189 V14	GI+RO	0090	Evaluation with French Gnome-Rhône engines	Oct. 1941	Possibly crashed
Fw 189 V15	Unknown	Unknown	Evaluation with two Argus As 411, prototype of Fw 189 F-1 series	July 1942	No details available



The Fw 189 became one of the most important German short-range reconnaissance aircraft
and was also well armed to carry out offensive missions. ***(Focke-Wulf via Dabrowski)***

Fw 190

Early in the war it became obvious that a more powerful fighter and fighter-bomber was needed in addition to the Bf 109 to achieve air superiority for the Luftwaffe on all fronts. Initially instead of an in-line engine a more powerful

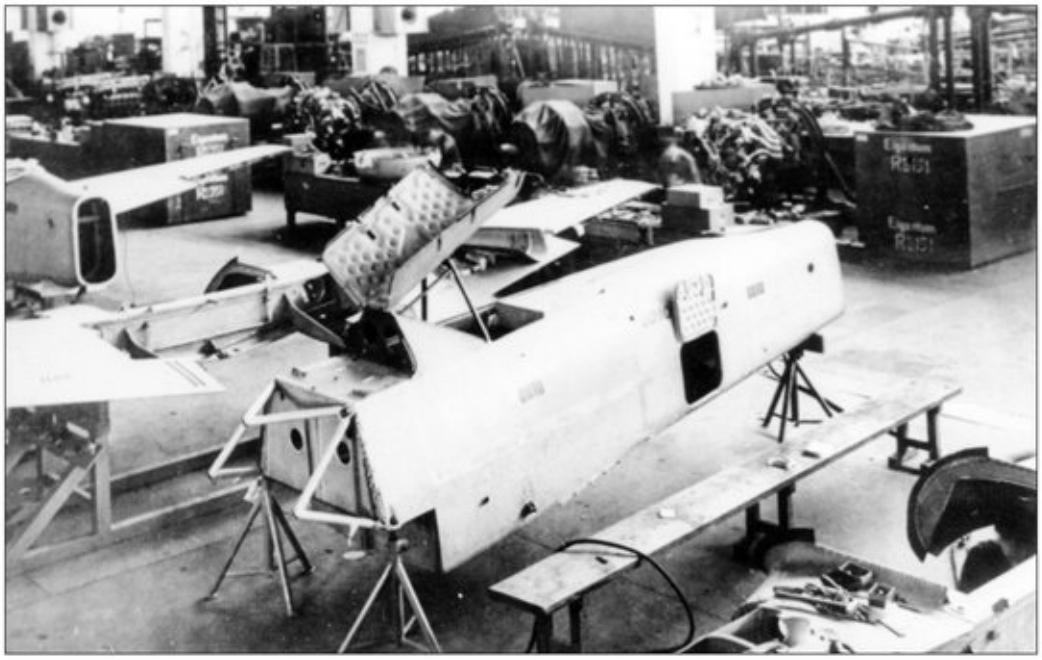
BMW 801 radial was installed in the Fw 190 A, F and G models. After the next generation of in-line engines, for example the Jumo 211, became available, the supreme Fw 190 D series was developed in the mid-war years. Evaluation to improve the performance of the Fw 190 took place at Langenhagen under the supervision of the Kommando der Erprobungsstellen and by E-Stelle Rechlin.

The first Fw 190 (V1) differed significantly from the experimental and pre-series aircraft that
followed because it was powered by a BMW 139 radial engine. ***(Focke-Wulf via Herwig)***

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Fw 190 V1	D-OPZE WL-FOLY FO+LY RM+CA	0001	Flight prototype with a BMW 139, later BMW 801 A and 14.9 m² wing	01.06.39	Captured at Berlin early May 1945
Fw 190 V2	WL+FOLZ FO+LZ RM+CB	0002	2nd prototype a/c, similar to Fw 190 V1	01.09.39	Handed over to Luftwaffe on 10.07.40
Fw 190 V3	None	0003	Not completed	—	Finished components used as spare parts
Fw 190 V4	None	0004	Used for static tests	—	Later scrapped
Fw 190 V5k/g	None	0005	Evaluated with two different wings (k and g variants)[1]	Apr. 1940	Severely damaged on 21.09.40
Fw 190 V6	KB+PH	0006	Developed with large wing structure, later in Rechlin	Oct. 1940	Unknown
Fw 190 V7	KB+PM	0012	1st prototype of Fw 190 A-0, with BMW 810 C-0	27.02.41	Unknown
Fw 190 V8	Unknown	0021	A/c with improved wireless sets (FuG VIIa and XXV, wing structure of V7	Unknown	Damaged on 1.10.41

1. Klein (k) = small and Gross (g) = large.

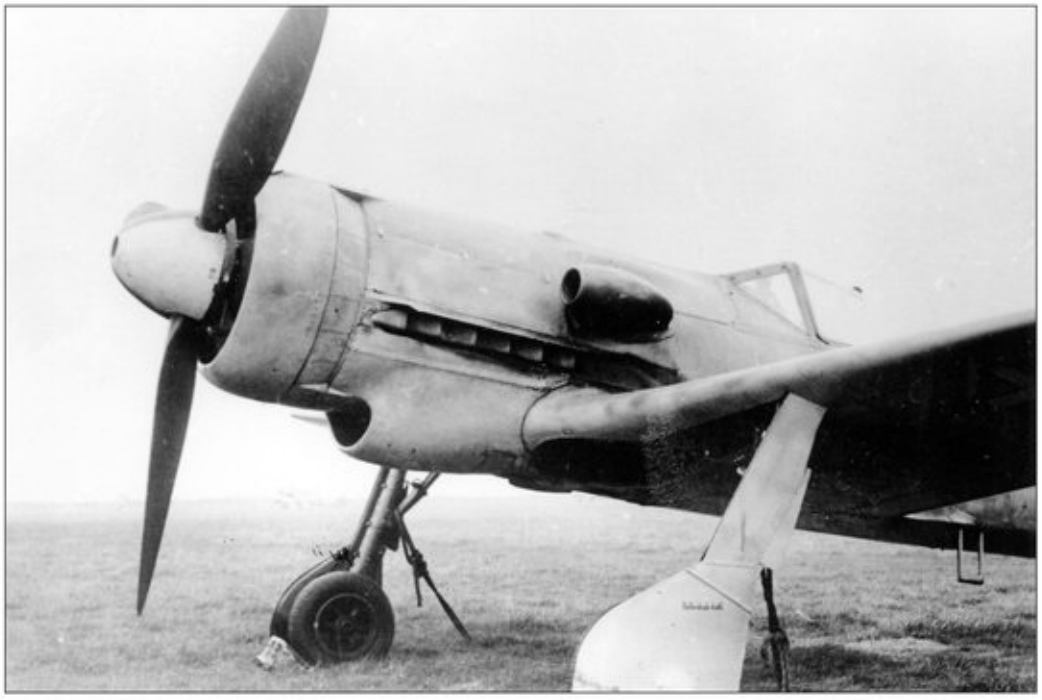
Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Fw 190 V9	SB+IE	0025	Evaluation with BMW 801 D	22.07.41	Damaged July 1942
Fw 190 V10	Unknown	0015	Weapons development with MG 151 in wing roots	Unknown	Unknown
Fw 190 V11	—	0010	Proposed to be fitted with a Wright radial engine, A-0/U6	—	Not built
Fw 190 V12	SK+JR	0035	Prototype of Fw 190 B-1 fitted with a pressured cabin	Early 1942	Scrapped
Fw 190 V13	SK+JS	0036	1st prototype of Fw 190 C-0, fitted with a DB 603 A-0	Early 1942	Crashed on 30.07.42
Fw 190 V14	GE+CA	0201	1st prototype of Fw 190 A-2 day-fighter aircraft	Early 1942	Unknown
Fw 190 V15	CF+OV	0037	Oil cooler beneath the fuselage, DB 603 A-2 and G compressor, and larger 18.3 m² wings	10.05.42	Unknown
Fw 190 V16	CF+OW	0038	Prototype of Fw 190 with Jumo A-1 in-line engine	Aug. 1942	Unknown
Fw 190 V17	CF+OX	0039	Modified Fw 190 A-0 with fin section of Fw 190 C-0 Jumo 213 in-line engine	26.09.42	Unknown



Fw 190 V11 was intended to be fitted with a Wright radial engine, but the plans were altered and the power plant was replaced by an early BMW 801. (Focke-Wulf)

Fw 190 V13 was tested at Langenhagen with a DB 603 A-0 in-line engine. (Focke-Wulf)

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Fw 190 V18	CF+OY	0040	Prototype with TK 11 exhaust turbine, GM 1 and DB 603 A-1	20.12.42	Unknown
Fw 190 V19	CF+OZ	0041	Prototype with fin section and new wing installation, with FuG 16 and FuG 25a	Dec. 1942	Damaged on 16.02.43
Fw 190 V20	TI+IG	0042	Similar to Fw 190 V19, but Jumo 213 A in-line engine and a lengthened fuselage	23.11.43	Last mentioned 20.05.44
Fw 190 V21	TI+IH	0043	Similar to Fw 190 V19, but with armament and Jumo 213, later with DB 603 L engine	13.03.43	Unknown
Fw 190 V22	TI+II	0044	Fw 190 D-9 prototype, with pressurized cabin	June 1943	Unknown
Fw 190 V23	TI+IJ	0045	Fw 190 D prototype possibly not completed	—	—
Fw 190 V24	TF+IK	0046	1st Fw 190 A-4 prototype a/c with full equipment	02.07.42	Unknown
Fw 190 V25	GH+KO	0050	Similar to Fw 190 V19, but Jumo 213 C and MK 103 engine-mounted cannon and two MK 108s	June 1943	Unknown



Fw 190 V16 was a pre-series aircraft of the DB 603-powered B-0 series. (Focke-Wulf)

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Fw 190 V26	GH+KP	0051	Similar to Fw 190 V19, but DB 603 A-1 and pressurized cabin, formerly G-2 prototype	June 1943	Unknown
Fw 190 V27	GH+KO	0052	Similar to Fw 190 V26, but fitted with a DB 603 A-1	June 1943	Unknown
Fw 190 V28	GH+KR	0053	Static structure tests	—	Scrapped
Fw 190 V29	GH+KS	0054	Similar to Fw 190 V18, but fitted with DB 603 S-1 and 20,3 m² wings	Mar. 1943	Last mentioned 27.06.43
Fw 190 V30	GH+KT	0055	Similar to Fw 190 V29 (A-0) became Ta 152 H-0	Apr. 1943	Unknown
Fw 190 V31	GH+KU	0056	Similar to Fw 190 V29 (A-0) became Ta 152 H-0	Early 1943	Unknown
Fw 190 V32	GH+KV	0057	Similar to Fw 190 V31 but with MG 151/10 in both wing roots	11.11.43	Unknown
Fw 190 V33	GH+KW	0058	Similar to Fw 190 V32, with DB 603 S-1 engine	Early 1943	Unknown
Fw 190 V34	VL+OW	410230	1st Fw 190 A-9 a/c with BMW 801 F radial engine	June 1943	Unknown

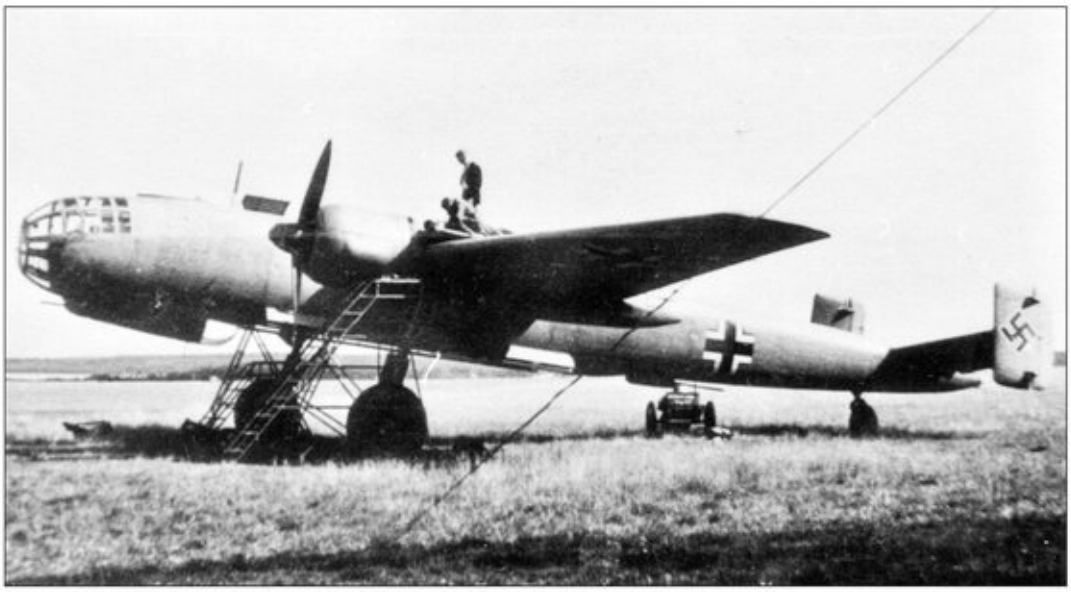
Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Fw 190 V35	BH+CF	0816	2nd Fw 190 A-9, see V24, but fitted with four MG 151	Oct. 1943	At Rechlin on 14.08.44
Fw 190 V36	Unknown	Unknown	No data available	Nov. 1943	At Rechlin on 08.04.44
Fw 190 V37 to Fw 190 V39	None	Unknown	Possibly not built	—	—
Fw 190 V40	Unknown	530380	Prototype a/c of Fw 190 A-6 with Lichtenstein radar	Unknown	Unknown
Fw 190 V41	Unknown	Unknown	Prototype a/c of Fw 190 G-6 long-range fighter-bomber	Unknown	Unknown
Fw 190 V42	NE+LA GC+LA	1083	Prototype a/c of Fw 190 G-6N long-range fighter-bomber for night operations	Feb. 1942	Unknown
Fw 190 V43	BH+CG	0817	Prototype a/c of Fw 190 G-3 fighter-bomber	Unknown	Unknown
Fw 190 V44	BP+LS	0855	Prototype a/c of Fw 190 G-4 fighter-bomber	Feb. 1942	Unknown
Fw 190 V45	RP+IU	7347	Prototype for Fw 190 A-6/R4, proposed to be fitted with BMW 801 TS radial	July 1943	Unknown
Fw 190 V46	TI+IK	0046	Fw 190 D prototype	Jan. 1943	Unknown

Only a few prototypes of the Fw 190 C-0 series were produced. These evaluated a new combination of a DB 603 and a TK 11 supercharger, seen here in V18. (Focke-Wulf)

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Fw 190 V47	DO+RO	530115	Prototype of Fw 190 A-8/R4 fitted with GM 1 system	08.02.43	At Rechlin from 18.02.44
Fw 190 V48	TI+IM	0048	Replacement a/c	06.04.43	Unknown
Fw 190 V49	TI+IN	0049	Replacement a/c	Mid-1943	Unknown
Fw 190 V50	BH+CA	0811	Fw 190 A-9 with BMW 801 F and MW 50 system	25.08.43	Unknown
Fw 190 V51	TG+AT	730765	Prototype a/c of Fw 190 A-8/R2	Mid. 1943	Unknown
Fw 190 V52	DU+JB	170002	Fw 190 D-9 with Hermine (radio beacon receiver) installation, formerly planned as Fw 190 A-10 fighter	Mar. 1944	Unknown
Fw 190 V53	DU+JC	170003	Prototype of Fw 190 D-9 fighter	June 1944	Unknown
Fw 190 V54	DU+JX	170024	Similar to Fw 190 V53	July 1944	Unknown
Fw 190 V55	GV+CV	170923	Prototype of Fw 190 D-11 high-speed fighter	Aug. 1944	Unknown
Fw 190 V56	GV+CW	170924	Similar to Fw 190 V55, formerly a Fw 190 A-8 a/c, but Jumo 213 F engine	15.08.44	At Rechlin in Nov. 1944
Fw 190 V57	GV+CY	170926	Similar to Fw 190 V56, but fitted with MW 50 system	Sept. 1944	Unknown
Fw 190 V58	GV+DF	170939	Similar to Fw 190 V56	Sept. 1944	Unknown
Fw 190 V59	VI+QK	350156	Similar to Fw 190 V56, used for engine development	Sept. 1944	Crashed on 9.10.44
Fw 190 V60	VI+QLI	350157	Similar to Fw 190 V56	Oct. 1944	Unknown
Fw 190 V61	VI+OM	350158	Similar to Fw 190 V56, became a Fw 190 D-13 prototype	Oct. 1944	Unknown
Fw 190 V62	SO+DO	732053	Prototype a/c of Fw 190 D-12/R11	Oct. 1944	Unknown
Fw 190 V63	CS+IB	350165	Similar to Fw 190 V52	Oct. 1944	Unknown
Fw 190 V64	Unknown	732054	Similar to Fw 190 V52, later Fw 190 D-12/R5	Nov. 1944	Unknown
Fw 190 V65	CS+IA	350165	Prototype a/c of Fw 190 D-13/R11	Nov. 1944	Unknown
Fw 190 V66	Unknown	584002	Prototype of Fw 190 F-15 fighter-bomber	15.12.44	Unknown
Fw 190 V67	Unknown	930516	Prototype of Fw 190 F-16 fighter-bomber with BMW 801 TS radial engine	Dec. 1944	Unknown
Fw 190 V68	Unknown	170003	Rebuilt Fw 190 V53, later became Ta 152 B-5/R11	Aug. 1944	At Gütersloh
Fw 190 V69	DR+MI	582072	Fw 190 F-8 with two X-42 under-wing ETC weapon racks	Mid-1944	Lost on 25.08.44

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Fw 190 V70	GO+KI	580029	Fw 190 F-8 with two X-4 wire-guided air to air missiles in under-wing ETC weapon racks	Mid-1944	Damaged on 25.08.44
Fw 190 V71	CS+IC	350167	Prototype a/c of Fw 190 D-13/R11, formerly a A-8	15.11.44	Unknown
Fw 190 V72	GV+BB	170727	Prototype a/c of Fw 190 F-8 with BMW 801 TS and PKS 12 system installed	20.06.44	Unknown
Fw 190 V73	TX+PO	733705	Prototype a/c with improved armour protection	Sept. 1944	Last reported on 6.04.45
Fw 190 V74	TX+PY	733713	Fw 190 A-8 with revised undercarriage	Mid. 1944	Unknown
Fw 190 V75	DR+MH	582071	Prototype a/c Fw 190 F-8 with SG 113 A anti-tank weapon	Sept. 1944	Unknown
Fw 190 V76	TS+DN	210040	1st prototype Fw 190 D-14, formerly a Fw 190 D-9	20.11.44	Unknown
Fw 190 V77	TS+DO	210043	2nd prototype Fw 190 D-14, formerly a Fw 190 D-12	10.01.45	Unknown
Fw 190 V78	DU+LH	551103	Prototype Fw 190 F-8	08.01.45	Unknown
Fw 190 V79	Unknown	581304	1st prototype Fw 190 F-8 with AG 140 rocket racks	12.01.45	Unknown
Fw 190 V80	NZ+DP	586600	2nd prototype Fw 190 F-8 with AG 40 systems	16.01.44	Unknown

Fw 190 V59, one of more than eighty Fw 190 prototypes, crashed on 9 October 1944.
(Selinger)



Development of Fw 191 V1 ended early in 1943 (Dabrowski)

Fw 191

The failure of the Bomber B development closed all attempts by Focke-Wulf to introduce a really powerful twin-engine bomber, finally to be fitted with two Jumo 222 radial engines. This engine design had been under development for much of the war but never equipped more than a few prototype aircraft. Therefore only three of the thirteen Fw 191 prototypes ever became flyable.

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Fw 191 V1	None	0001	Flight development with BMW 801 MA-1 radials	18.03.41	Last flight on 11.01.43
Fw 191 V2	None	0002	Flight development with BMW 801 MA-1 radials	08.01.42	Flown until 18.12.42
Fw 191 V3	None	0003	Never ready for take-off due to technical problems	—	Scrapped
Fw 191 V4	None	0004	Parts for replacement a/c fitted with BMW 801 built	—	Scrapped
Fw 191 V5	None	0005	Parts for replacement a/c fitted with Jumo 222 V built	—	Scrapped
Fw 191 V6	None	0006	Flight development with Jumo 222	17.12.42	Scrapped after Dec. 1942
Fw 191 V7	None	0007	Never completed	—	Parts scrapped
Fw 191 V8	None	0008	Never completed	—	Parts scrapped
Fw 191 V9	None	0009	Used for static tests	—	Scrapped

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Fw 191 V10	None	0010	Evaluation with pressurized cabin, heating system and armament and weapons only proposed	—	Parts scrapped
Fw 191 V11	None	0011	Proposed for tactical tests, a/c never completed	—	Parts scrapped
Fw 191 V12	None	0012	Parts for replacement a/c fitted with Jumo 222 V built	—	Parts scrapped
Fw 191 V13	None	0013	Proposed to be fitted with DB 606, but never built	—	Parts scrapped

A close-up view, possibly of Fw 191 V2, during refuelling at Wenzendorf, where most test flights with Fw 191 V1, V2 and V6 took place. ***(Herwig)***

Fw 200

The Fw 200 was developed to establish routes between Europe and the USA for Lufthansa, During the war the design was altered to become a long-range maritime combat and reconnaissance aircraft. The last prototypes saw work on an advanced civil variant, the Fw 200 L-1, and an ultra-long-range transport and courier aircraft, the Fw 200 E-1. Because all development of Fw 200 was then stopped, no prototype long-range combat version Fw 200 F-1 was prepared.

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Fw 200 V1	D-AERE D-ACON	2000	Flight development with four Pratt & Whitney Hornet S1E	06.09.37	Lost in Manila Bay, Philippines, on 5.12.38

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Fw 200 V2	D-AETA WL-AETA F8+GH	2484	Flight development with four BMW 132 L	Early 1938	Belly landing in Oslo, written off
Fw 200 V3/ Fw 200 A-0/S9	D-ARHU D-2600	3099	Used as Hitler's personal a/c fitted with four BMW 132 G	Late 1938	Handed over to Luftwaffe on 19.10.39
Fw 200 V4/ Fw 200 B-1	BS+AF	0001	Became Fw 200 V10 after the conversion	1939	See Fw 200 V10
Fw 200 V5/ Fw 200 D-1	D-AEQP	0009	Used as transport a/c by the Luftwaffe	1939	Destroyed by bombs on 23.11.40
Fw 200 V6/ Fw 200 KC-1	D-ACVH NA+WJ	0017	Delivered as Fw 200 C-2 pre-series prototype	1939	Unknown
Fw 200 V7	D-ARHW	2994	Used as transport a/c by the Luftwaffe	1939	Crashed into Baltic Sea on 29.11.44
Fw 200 V8	—	—	Not built	—	—
Fw 200 V9	D-AXFO PP-CBI	2996	Not details available, if any tests were undertaken		Scrapped in Brazil in May 1947
Fw 200 V10	BS+AF	0001	Used as long-range recce a/c by Kommando Rowehl fitted with BMW 132 H-1	Nov. 1939	Crashed at Jever due to engine failure on 23.11.39
Fw 200 V11 Fw 200 C-1	BS+AG	0002	Became the 1st Fw 200 C-1	Feb. 1940	Handed over to Luftwaffe on 20.04.40
Fw 200 V12	Unknown	0015	Became the 1st Fw 200 C-2 used for weapon evaluation	June 1940	Unknown

The first Fw 200 (V1) Condor during its early evaluation phase at Bremen in the summer of 1939. ***(Griehl)***

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Fw 200 V13	Unknown	0025	Became the 1st Fw 200 C-3, used for engine evaluation	Aug. 1940	Damaged by bombs in Russia on 29.01.43
Fw 200 V14	—	—	Proposed Fw 200 L-1 a/c, never built	—	—
Fw 200 V15	—	—	Proposed Fw 200 E-1 a/c, never built	—	—

Fw 200 V2 was flown by Lufthansa from 1938. ***(Weber)***

Fw 206

The Fw 206, a medium-range civil transport aircraft, was ordered by Lufthansa and was to carry some 14 – 18 passengers. The proposed airliner was to be powered by two Bramo 323 R or two BMW 800 D engines. All work stopped on 1 October 1942, because the construction of military aircraft had become more important.

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Fw 206 V1	—	—	Flight development with BMW 800 A planned	—	Not built
Fw 206 V2	—	—	As above	—	Not built
Fw 206 V3	—	—	Proposed static test-bed	—	Not built

Fw 300

The Fw 300 project was cancelled in November 1942, when the RLM ordered Focke-Wulf to continue work on long-range combat and reconnaissance aircraft for Atlantic service.

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Fw 300 V1	—	—	Flight development with Jumo 222 A/B planned,	—	Not built
Fw 300 V2	—	—	See Fw 300 V1	—	Not built

Ta 152

Development of the Ta 152, a single-seat high-altitude fighter and reconnaissance aircraft, seemed to go much more better than all other Fw 190 variants. The first prototypes were rebuilt Fw 190 prototypes, often powered by DB 603 or Jumo 211 engines. Because of the high performance of the Ta 152 numerous prototypes were built in 1944 and early 1945, but only the Ta 152 H became available in limited quantities.

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Fw 190 V18/U1	CF+OY	0040	Fw 190 V18/U1 rebuilt as Ta 152 H-0, evaluation with Jumo 213 E-1 in-line engine	19.11.44	Survived until Apr. 1945
Fw 190 V19/U1	CF+OZ	0041	Rebuilt as a Ta 152 A-1 fitted with new undercarriage and MK 103 armament	07.07.43	Unknown
Fw 190 V20/U1	KB+KR TI+IG	0042	Rebuilt as a Ta 152 A-1, first fitted with a Jumo 213 A, then with a DB 603 B and engine-mounted MK 103/M	23.11.43	Unknown
Fw 190 V21/U1	GH+KR TI+IH	0043	Rebuilt as a Ta 152 A-0 first fitted with a Jumo 213 A, later as a Ta 152 C with a DB 603 B in-line engine	13.03.44 03.11.44	Unknown
Fw 190 V29/U1	GH+KS	0054	Rebuilt as a Ta 152 H-0 with Jumo 213 F-1, and later fitted with an E-1 engine	24.09.44	Unknown
Fw 190 V30/U1	GH+KT	0055	Rebuilt to Ta 152 H-0 standard	06.08.44	Crashed on 13.08.44 (100%)
Fw 190 V32/U1	GH+KV	0057	Rebuilt as Ta 152 H-0 for evaluation with a Jumo 212 E-1 in-line engine	25.11.44	Scrapped on 06.04.45
Fw 190 V33/U1	GH+KW	0058	Rebuilt to Ta 152 H-0 standard	13.07.44	Damaged on 15.07.44
Fw 190 V68	JU+JC	170003	Weapons development test for future Ta 152 B series	13.12.44	Unknown

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Ta 152 V1	None	250001	Proposed to become a Ta 152 A-1, but not built	—	—
Ta 152 V2	None	250002	Proposed to become a Ta 152 A-1, but not built	—	—
Ta 152 V3	None	260001	Proposed to become a Ta 152 H-1, but not built	—	—
Ta 152 V4	None	260002	Proposed to become a Ta 152 H-1, but not built	—	—
Ta 152 V5	None	260003	Proposed to become a Ta 152 H-1, but not built	—	—
Ta 152 V6/ Ta 152 CV6	VH+EY	110006	Prototype a/c of Ta 152 C-0 evaluated with DB 603 EV21 with MW 50 system	12.12.44	At Langenhagen on 17.12.44
Ta 152 V7/ Ta 152 CV7	CI+XM	110007	Prototype a/c of Ta 152 C-0/R11 with DB 603 EV20, later with DB 603 LA	Dec. 1944	From 25.01.45 used by Siemens (K 23 system)
Ta 152 V8/ Ta 152 CV8	GW+QA	110008	Prototype a/c of Ta 152 C-0 with DB 604 EV19	15.01.45	At Rechlin from Feb. 1945
Ta 152 V9	None	110009	Test-bed for static structure evaluation, formerly proposed as 1st Ta 152 E-1	—	Unknown
Ta 152 V10	—	110010	Production cancelled on 18.10.44	—	—
Ta 152 V11	—	110011	Production cancelled on 18.10.44	—	—

The final successful German piston-engined fighter, the Ta 152, was flown at Langenhagen.
Ta 152 V2 can be on the left of Fw 190 V30/U1 (GH+KT). ***(Lange)***

Ta 152 V19 was first flown as a Ta 152 C with a DB 603 LA in-line engine and was rebuilt as a B-5/R11 during the closing month of the war. ***(Selinger)***

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Ta 152 V12	—	110012	Production cancelled 18.10.44	—	—
Ta 152 V13	—	110013	Production cancelled 18.10.44	—	—
Ta 152 V14	None	110014	Test-bed for static structure evaluation, formerly proposed as a 2nd Ta 152 E-1	—	Unknown
Ta 152 V15	None	110015	Production cancelled on 18.10.44	—	—
Ta 152 V16	Unknown	110016	1st prototype Ta 152 C-3, fitted with an engine-mounted MK 103/M and a DB 603 B-1	18.04.45	Unknown
Ta 152 V17	Unknown	110017	2nd prototype a/c of Ta 152 C-3 seriesfitted with an engine-mounted MK 103/M and a DB 603 E-1	22.04.45	Unknown
Ta 152 V18	None	110018	Prototype a/c of Ta 152 C-4/R11, not completed due to lack of DB 603 L engines	—	scrapped
Ta 152 V19	Unknown	110019	1st prototype a/c of Ta 152 B-5/R11, fitted with FuG 125 Hermine radio beacon receiver and K 23 navigational system	30.03.45	Unknown

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Ta 152 V20	Unknown	110020	2nd Ta 152 B-5/R11 prototype, equipped as Ta 152 V19	30.03.45	Unknown
Ta 152 V21	Unknown	110021	3rd Ta 152 B-5/R11 prototype, equipped as Ta 152 V19	10.04.45	Unknown
Ta 152 V22	—	110022	1st prototype Ta 152 C-4, not built	—	—
Ta 152 V23	—	110023	2nd prototype Ta 152 C-4, not built	—	—
Ta 152 V24	—	110024	3rd prototype Ta 152 C-4, not built	—	—
Ta 152 V25	—	110025	Prototype a/c of Ta 152 E, then of Ta 152 H-2, both cancelled by 12.10.44	—	—
Ta 152 V26	—	110026	1st prototype a/c of Ta 152 H-10 fitted with Jumo 213 E, GM 1 nitrous oxide boost and MW 50 water–methanol injection	06.02.45	—
Ta 152 V27	—	150031	4th prototype Ta 152 C-3, rebuilt from a Ta 152 H-0, using DB 603 L	07.02.45	—
Ta 152 V28	—	150032	5th prototype Ta 152 C-3, rebuilt from a Ta 152 H-0, using DB 603 L	18.02.45	—

Fw 190 V32/U1 was used in work to prepare the Ta 153 under the Höhenjäger schnelle Lösung ('Quick Solution High-Altitude Fighter') programme. ***(Lange)***

Ta 153

The development of the Ta 153 was ended by the RLM after a short flight evaluation, because advanced variants of the Ta 152 seemed to be better suited to fulfil the demands of the Luftwaffe fighter units in 1944.

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Fw 190 V32	GH+KV	0057	Used as flying test-bed of Ta 153 until development ceased in 1944	11.11.43	Unknown

Ta 154

The development of the wooden fast bomber and night-fighter, the Ta 154, was the answer to the British ‘Wooden Wonder’, the DH Mosquito. Because problems with the bonding of metal and wooden parts became very time consuming and in the absence of sufficiently powerful in-line engines, the development was finally very delayed. The last prototypes became forerunners of the Ta 154 A-2 series variant.

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Ta 154 V1	TE+FE	100001	General flight development fitted with Jumo 211 F, later with two Jumo 211 N	01.07.43	Destroyed on 06.08.44
Ta 154 V1a	None	—	Static test-bed used for weapon tests with MG 151/20 and MK 108 guns	—	Last noticed in Jan. 1944
Ta 154 V2	TE+FF	100002	Evaluation with Jumo 211 F on right side and Jumo 211 N on left side	10.09.43	Destroyed in US air raid on Langenhagen on 05.08.44
Ta 154 V3	TE+FG	100003	Evaluation of wireless system and four MG 151/20 guns	25.11.43	Destroyed in US air raid on Langenhagen on 05.08.44
Ta 154 V4	TE+FH	100004	Development with two 300-litre fuel drop tanks	19.01.44	Destroyed by accident on 01.06.44
Ta 154 V5	TE+FI	100005	Evaluation with a fixed armament of four MK 108, later became a night-fighter	25.02.43	Last mentioned on 14.08.44
Ta 154 V6	TE+FJ	100006	Used for tactical evaluation by Rechlin and EK 154	17.03.44	Last mentioned on 14.08.44
Ta 154 V7	TE+FK	100007	Military development by EK 154 with flame dampers	25.03.44	Destroyed in US air raid on Langenhagen on 05.08.44
Ta 154 V8	TE+FL	100008	1st a/c with Jumo 213 A-1 used for flight development	06.05.44	Fatal crash landing on 06.05.44

The first Ta 154, prototype of a wooden all-weather day-and night-fighter was tested by
Professor Kurt Tank himself. (Focke-Wulf)

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Ta 154 V9	TE+FM	100009	1st series a/c of Posen production line	18.04.44	Fatal crash on 18.04.44
Ta 154 V10	TE+FN	100010	2nd series a/c of Posen production line	04.06.44	Crash landing on 18.07.44
Ta 154 V11 to Ta 154 V13	None	—	Static structure trials with a Ta 154 A-1	—	Later scrapped
Ta 154 V14	—	—	Static structure trials used for Ta 154 C-0 pre-series a/c	—	Later scrapped
Ta 154 V15	—	—	Proposed prototype a/c for Ta 154 A-2 series a/c	—	—
Ta 154 V16 to to Ta 154 V19	—	—	Proposed prototype a/c for Ta 154 B-1 series a/c	—	—
Ta 154 V20	—	—	Proposed Ta 154 C-1 with a metal fuselage, June 1944	—	—
Ta 154 V21	—	—	Proposed Ta 154 C-2, later C-3 prototype, July 1944	—	—

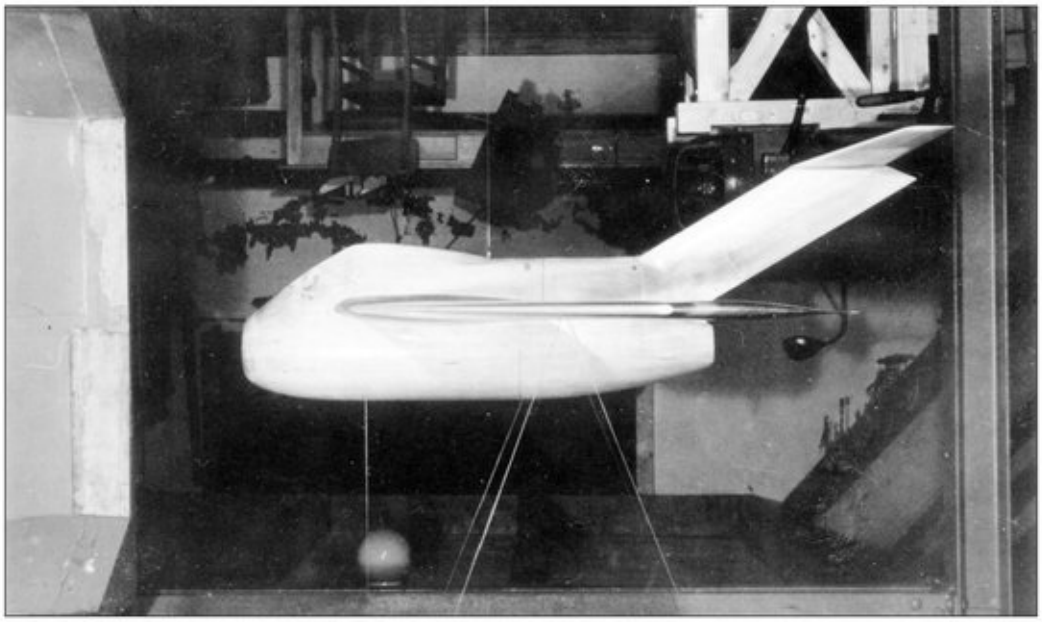
Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Ta 154 V22	TQ+XA	120001	3rd series a/c with Jumo 213 A-1 installation	12.06.44	Damaged in US air raid on Langenhagen on 05.08.44
Ta 154 V23	TQ+XC	120003	4th series a/c with Jumo 213 A-1 installation	14.07.44	Flown in action early in 1945
Ta 154 V24	None	Unknown	Static test-bed for structure evaluation	—	Scrapped

The fourth Ta 154 was the only one fitted with a flexible MG 81 Z in a defensive position in
a lengthened canopy, operated by a second crew member. (Focke-Wulf)

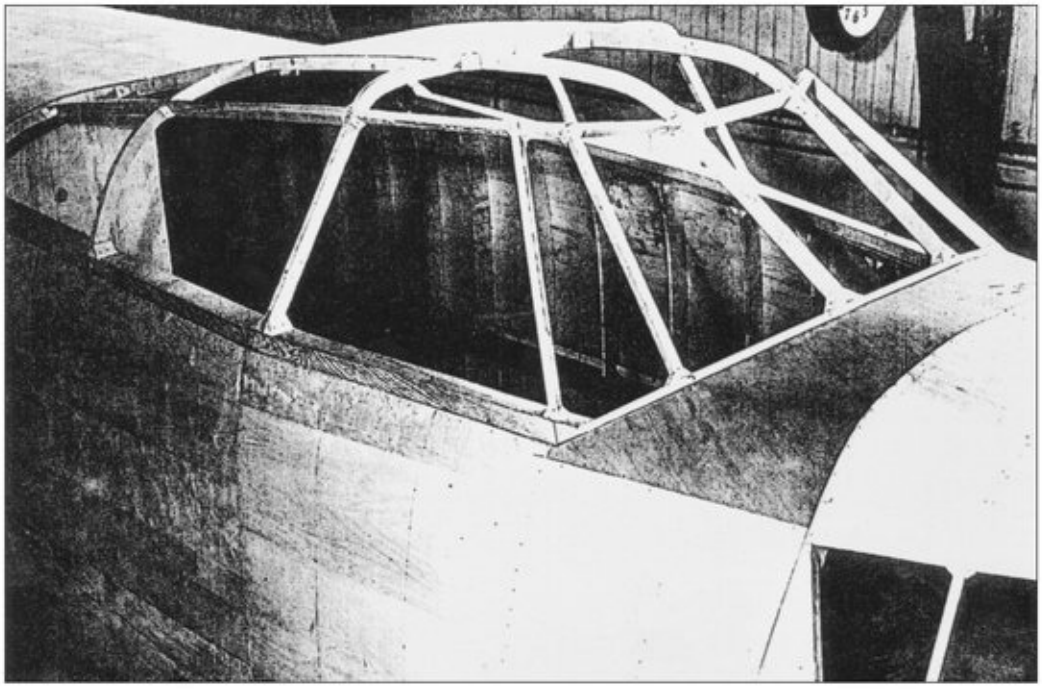
Ta 183

The Ta 183 jet fighter was developed from 1943, but was never finished, because the planned engine, a Heinkel HeS 011 turbine, the first second-generation jet engine, was not produced in time.

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Ta 183 M1	Unknown	Unknown	Under construction early 1945	—	Unknown



The single-jet Ta 183 fighter was intended to enter service from late summer 1945.
None were built. (Focke-Wulf)



A wooden mock-up believed to be of the Ta 400 fuselage. ***(Herwig)***

Ta 400

Due to the lack of resources only a wooden mock-up of the Ta 400 long-range bomber and reconnaissance aircraft was made. The design was to be fitted with six powerful engines but no production plans were possible.

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Ta 400 V1	—	—	Only mock-up built	—	Most parts scrapped

8.11 Gotha and Kalkert

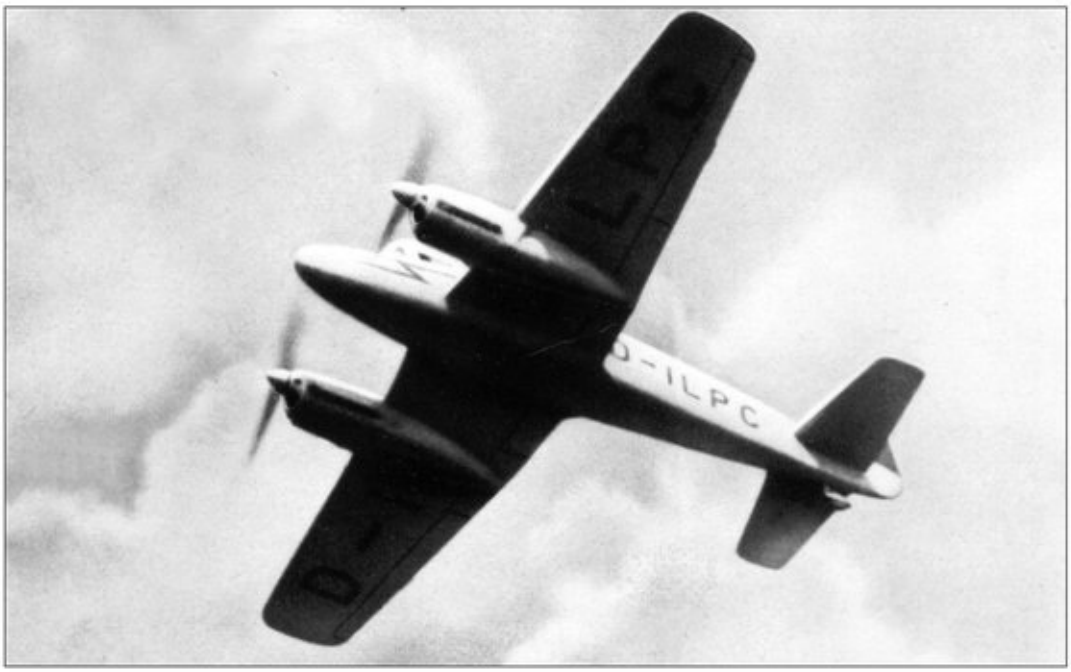
Go 145

The Go 145 was a two-seat biplane built in large numbers for Luftwaffe training units. It was evaluated at Gotha and at E-Stelle Rechlin where three Go 145 were flown from December 1939. A later series aircraft, D-IIWS, was also used for testing new propulsion systems beneath the fuselage.

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Go 145a (V1)	D-IJVE	Unknown	Flight development using As 10 C in-line engine	1935	Unknown
Go 145b (V2)	D-ILLC	Unknown	Flight development	1935	Unknown
Go 145 V3	D-IALA	Unknown	Armaments tests	Unknown	Unknown

Go 145a (later Go 145 V1) was the forerunner of more than 1,180 training aircraft built until 1940. (Dabrowski)

Only three prototypes of the Go 145 are known. The second , Go 145b (later Go 145 V2),
is shown near Gotha during flight development. ***(Griehl)***



Go 146 V2 (D-ILPC) was exhibited at the 1937 Brussels Air Show. (Dabrowski)

Go 146

The Go 146, a low-wing design, was originally fitted with underpowered HM 10s when it was first tested by Gotha. Machines from Go 146 V2 onwards featured an enlarged fuselage, a bigger wingspan and more powerful in-line engines.

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Go 146 V1	D-IFSL	3898	Flight development with two Argus As 10 in-line engines	1936	Unknown
Go 146 V2	D-ILPC	3899	Flight development	Unknown	Unknown
Go 146 V3 (Go 146 A-01)	D-ICDY	3900	Flight development with two HM 508 E and larger fuselage	1937	Unknown

Go 147

This flying-wing two-seat reconnaissance plane did not meet RLM requirements. After the loss of the first prototype, the second one was scrapped because of its poor performance.

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Go 147 V1/ Go 147 SV1	D-IQVI	827	Flight development with Sh 14 A radial engine	May 1936	Crashed
Go 147 V2/ Go 147 SV2	—	828	Flight development with As 10 C in-line engine proposed	1937	Scrapped

The experimental tail-less Go 147 was designed by Dr.-Ing. Kupper. (Dabrowski)

Go 149

Several variants of the Go 149, a small low-wing design, were prepared. Besides armed and unarmed training aircraft, a low-level-attack version was projected, but its prototype, Go 149 V3, was never completed.

Go 149 (V2) was developed to take part in a competition for an advanced single-seat
trainer and light home-defence fighter aircraft. (Gotha)

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Go 149 V1	D-EGWF		Flight development with one AS 10 C in-line engine	1030	Crashed near Frankfurt in 1939
Go 149 V2	D-EJFR		Flight development	1939	Unknown
Go 149 V3	—		L series variant powered by an As 410, not completed	—	Scrapped

Fewer than 150 examples of the Gotha Go 150 Volksflugzeug were built and

sold.
It was fitted with two low-powered in-line engines. ***(Griehl)***

Go 150

The Go 150 was tested by Gotha and then at Berlin-Adlershof. H. Hoepke has reported that one Go 150 was used for rigid-tow tests with an He 46. The Go 150 B series was fitted with dual controls for training. Most Go 150s were used as liaison aircraft by the Luftwaffe.

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Go 150 V1	D-ERCQ	Unknown	Flight development with two Zündapp Z9-92	1937	Unknown
Go 150 V2	Unknown	Unknown	No details available	1938	Unknown

The Go 241 was propelled by two HM 506 A engines and could carry the pilot and
up to five passengers. (Dabrowski)

Go 241

The Go 241 was a six-seater twin-engine touring aeroplane designed by Albert Kalkert. The RLM thought it too expensive compared to the Bf 108 and other small liaison planes used by the Luftwaffe.

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Go 241 V1	D-IRMM		Flight development with two HM 506 A	1940	Fatal crash after fin section broke off
Go 241 V2	Unknown		Flight development	—	Destroyed in an air raid in 1944

Go 242

Two Go 242 transport gliders, designed by Albert Kalkert, were tested at Rechlin but fatal accidents disrupted the type's initial evaluation. An improved undercarriage was installed later. In August 1941 the Starrschlepp ('Rigid tow') system was tested on a Go 242.

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Go 242 V1	VC+0A	0001	Flight development with He 111 towing aircraft	09.11.40	Possibly destroyed at Rechlin early in 1941
Go 242 V2 (Go 242 A-0)	VC+OB	0002	Flight development with Luftlandegeschwader (air-landing wing) 11 at Hildesheim	Feb. 1941	A/c damaged during evaluation
Go 242 V3 (Go 242 A-0)	VC+OC	0003	Flight development with LLG 11	Mar. 1941	Unknown, presumably damaged

Three Go 242 prototypes were built and flown at Gotha Nord and at Rechlin. ***(Nowarra)***

Go 244

The Go 244 twin-engine transport was tested using different radial engines

including French types. After evaluation at Gotha and at Rechlin, the first Go 244 A-1s were handed over to the Luftwaffe in August 1941. Further tests with higher payloads were later carried out.

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Go 244 V1	VC+OR	0018	Flight development with two Gnome-Rhône 14 M radial engines using a rebuilt Go 242 A-1 airframe	May 1941	Unknown
Go 244 V2	VC+OS	0019	Flight development with two Gnome-Rhône 14M radial engines using a rebuilt Go 242 A-1	Mid-1941	At Rechlin during 1942
Go 244 V3	Unknown	0020	Flight development, possibly Gnome-Rhône 14 M	Mid-1941	Unknown
Go 244 V4	Unknown	Unknown	1st pre-series prototype of Go 242 A-1 series	Mid-1941	Unknown
Go 244 V5	Unknown	Unknown	2nd pre-series prototype of Go 242 A-1 series	Mid-1941	Unknown
Go 244 V6	Unknown	0830	1st prototype for Go 244 E-1 series (BMW 132 E)	Nov. 1941	Unknown

Six Go 244s were tested in 1941 with Gnome-Rhône and BMW 132 radials. ***(Trümper)***

Go 345

The twin pulse-jet Go 345 was projected in early 1944 but soon cancelled because the RLM believed that the proposal could not be realised in Germany's difficult war situation.

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Go 345 V1	—	—	Only a mock-up built, from wooden parts	—	All parts scrapped

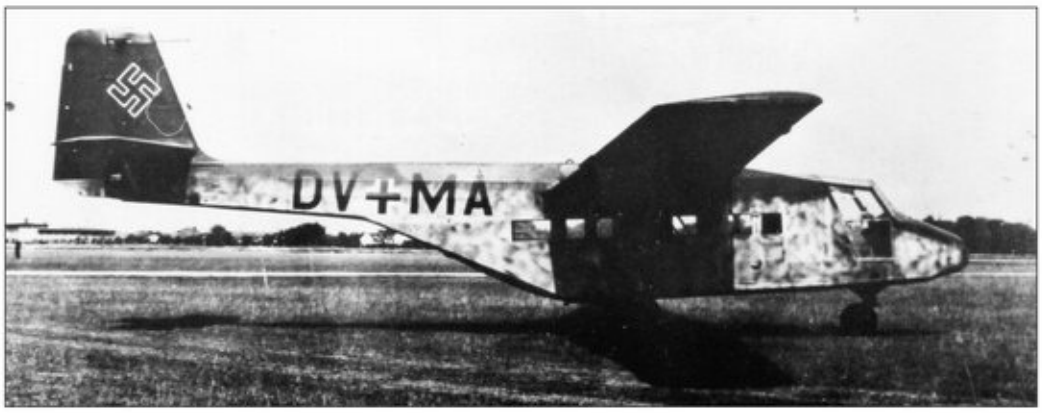
Ka 430

The final German transport glider construction, a Sturmlastensegler (assault cargo glider) designed by Albert Kalkert, showed good potential but was too late to achieve a series contract. Five prototypes were flown and two others were completed. Evaluation was halted in March 1945 because there was no fuel for the towing aircraft.

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Ka 430 V1	DV+MA		Flight development, a/c towed by an He 111 H-5 (F7+DK)	27.03.44	Unknown

The mock-up of the Ka 430 tactical assault and transport glider included a heavy
defensive armament of up to five machine guns. ***(Nowarra)***

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Ka 430 V2	DV+MB		Flight development, a/c towed by He 111 H-11 (CI+CE) and by He 111 H-6 (FF+HH)	27.06.44	Unknown
Ka 430 V3	DV+MD		A/c never became airworthy because of alterations	Unknown	Crashed at Rechlin in 1944
Ka 430 V4	DV+ME		Flight development, no further details available	29.09.44	Unknown



Only five Ka 430 gliders were flight tested; a few more prototypes and further A series aircraft were under construction. ***(Nowarra)***

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Ka 430 V5	DV+MC		Flight development, no further details available	17.10.44	Unknown
Ka 430 V6	None		A/c was completed but never flown	—	—
Ka 430 V7	None		A/c was completed but never flown	—	—
Ka 430 V8 to Ka 430 V12	None		A/c not built or completed	—	—

8.12 Heinkel

HD 42 / He 42

The Heinkel Doppeldecker (HD) biplane was ordered by Deutsche

Verkehrsfliegerschule (DVS) and was tested at Warnemünde. It was possible to operate the aircraft either with a wheeled undercarriage or with twin floats, attached to the central fuselage and each wing.

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
HD 42a	D-1793	333	General flight development	Feb. 1930	At Warnemünde in 1936
HD 42b	D-2032	372	Flights with Jumo L-5 engine	Unknown	At List (Sylt) in 1933

He 42 V2 was the second prototype, built by Heinkel at Rostock. (Heinkel)

The first of several He 45 light reconnaissance aircraft, the HD 45a was first

flown at
Warnemünde near Rostock. (Heinkel)

HD 45 / He 45

The HD 45 single-engine two-seat reconnaissance plane and light bomber aircraft was initially developed at Warnemünde and then was tested by the DVL at Berlin-Adlershof. A comprehensive military evaluation was later carried out at Lipezk in Russia.

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
HD 45a (V1)	D-1011 D-IBEZ	363	Flight development, a/c fitted with BMW IV in-line engine	1931	At Berlin-Staaken in 1932

He 45 V12 was powered by a Jumo 211 A-1. ***(Heinkel via Nowarra)***

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
HD 45b (V2)	D-2064 D-ILEU	364	2nd prototype powered by BMW IV in-line engine	1931	Still in use in 1938
HD 45c (V3)	D-IAGL	Unknown	No data available	Unknown	Unknown
He 45d (V4)	D-1028	Unknown	No data available	Unknown	Unknown
He 45 V5 to He 45 V9	Unknown	Unknown	No data available, uncertain if aircraft were ever built	Unknown	Unknown
He 45 V10	D-ITZA	1975	1st prototype flown with DB 600, He 45 G series a/c	Oct. 1936	Unknown
He 45 V11	D-IZEO	1976	2st prototype flown with DB 600, He 45 G series a/c	Dec. 1936	Unknown
He 45 V12	D-IVAZ	Unknown	1st prototype with Jumo 211 A-1	—	—
He 45 V13	Unknown	Unknown	2nd prototype with Jumo 211 A-1	—	—

HD 46c was the third prototype of this reconnaissance aircraft. (Deutsche Lufthansa)

HD 46 / He 46

The HD 46 reconnaissance aircraft, originally a sesquiplane design but converted to a high-wing monoplane type, was tested by the RDL at Berlin-Staaken after first trials at Warnemünde. Early in summer 1931 a first aircraft was transferred to Lipezk and tested there with a weapons rack for bombs and other military equipment installed.

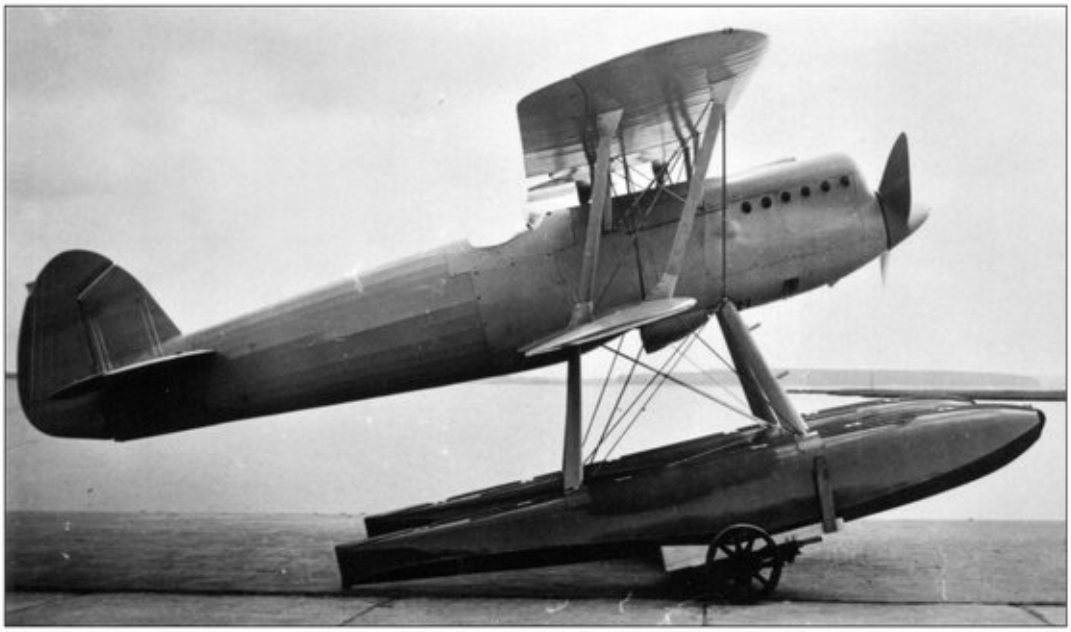
Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
HD 46a (V1)	None	376	Flight development with Sh 22 (later Bramo 322)	Apr. 1931	Unknown

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
HD 46b (V2)	D-1028	377	Evaluation with improved new rudders	04.12.31	Unknown
HD 46c (V3)	Unknown	378	No details available	Unknown	Unknown
HD 46d (V4)	Unknown	379	No details available	Unknown	Unknown

He 49 and He 51

The He 49 and He 51 single-seat day-fighter biplanes were flown by the RDL at Staaken. The first was then handed over to RDL-Erprobungsstelle at Travemünde. Tests with an example configured as a floatplane followed.

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
HD 49a (V1)	D-2363 D-IREH	371	Flight development with BMW IV in-line engine	Nov. 1932	Unknown
HD 49b (V2)	Unknown	Unknown	Enlarged fuselage and equipped with floats	Feb. 1933	Unknown
HD 49c (V3)	Unknown	Unknown	Revised engine and improved undercarriage	Unknown	Unknown
He 51 V4	D-2726 D-IBES	429	Series prototype, possibly of He 51 A-0/A-1 series	Unknown	Unknown



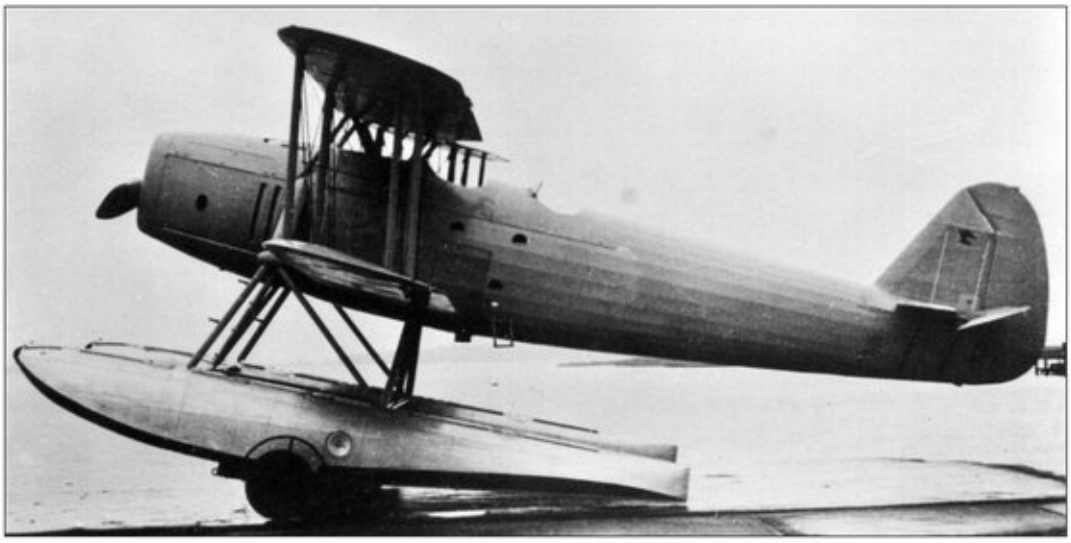
The HD 49 was developed as a land-and sea-based fighter aircraft and was the forerunner of the later He 51 fighter aircraft, the first of the new Luftwaffe. ***(Heinkel via Griehl)***

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
He 51 V5	D-IBAA	994	Prototype with enlarged wing	Unknown	Unknown
He 51 V6	D-IBYI	995	1st He 51 D-0 pre-series a/c	Unknown	Unknown
He 51 V7	D-ILGY	1485	2nd He 51 D-0 pre-series a/c	Unknown	Unknown

He 51 V7 (D-ILGY, D-0 series) was armed with two fixed MG 17s. (Heinkel via Herwig)

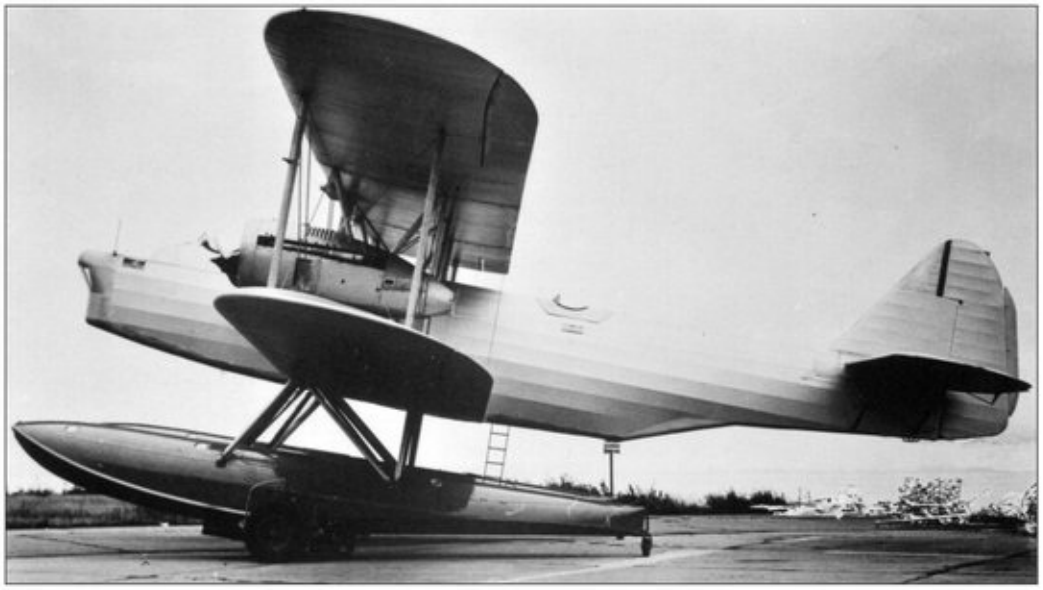
HD 50 / He 50

The HD 50 was one of the aircraft produced for the new, secret Luftwaffe in 1933. It was a dive-bomber for maritime service and also a land reconnaissance aircraft.



The first prototype HD 50a was propelled by a SAM 32 B in-line engine. (Heinkel)

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
HD 50a (V1)	D-2326	406	Flight development with SAM 32 B	1932	Unknown
HD 50b (V2)	D-2471	408	Flight development with Jumo L 5, then BMW Jupiter	1932	Burnt in hangar on 17.06.34
HD 50 V3	Unknown	834	Flight development with SAM 32 B, armament fitted	1933	Unknown
HD 50 V4	Unknown	835	Flight development with SAM 32 B, armament fitted	1933	Unknown
HD 50 V5	Unknown	955	Flight development with BMW Hornet	Unknown	Unknown

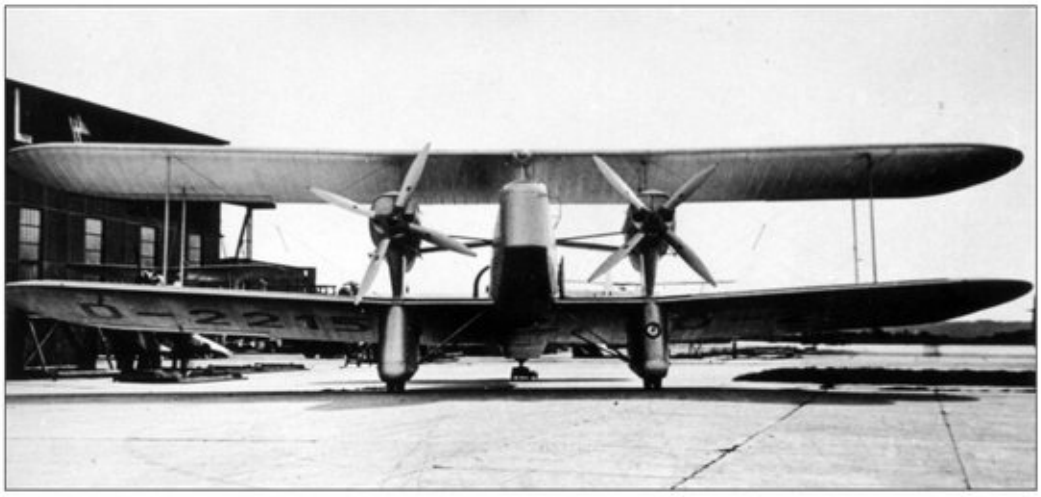


The first prototype He 59 was used for general evaluation of the type. (Heinkel)

HD 59 / He 59

The huge HD 59 biplane was a multi-role maritime combat aircraft developed at Rostock from 1930 under an order from the Marineleitung. It was evaluated at Warnemünde, Travemünde and Lipezk.

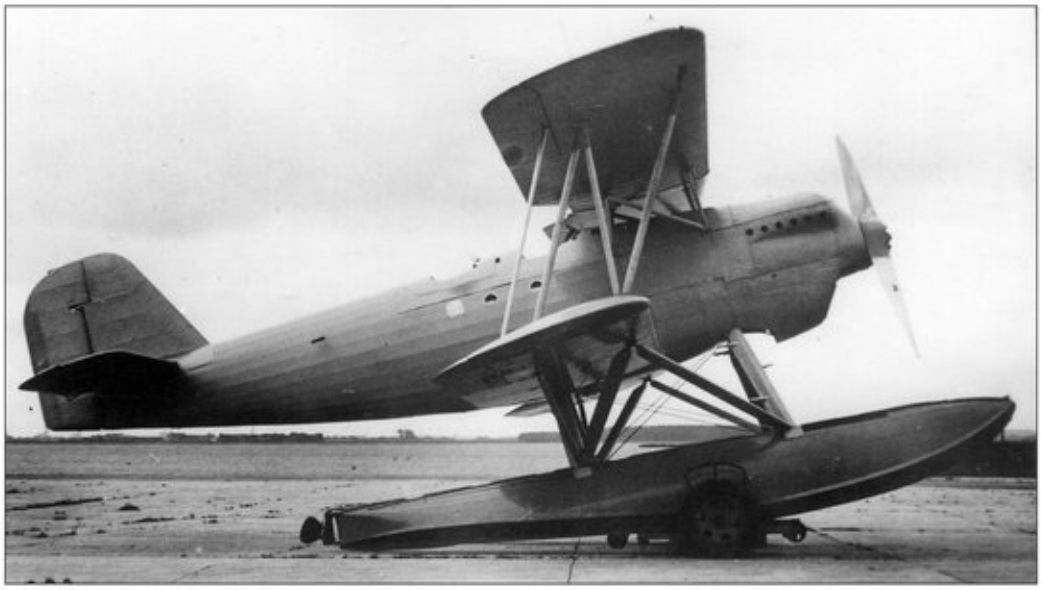
Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
HD 59a (V1)	D-2214 D-ARAR	378	Flight development with two BMW VI	Jan. 1932	Unknown
HD 59b (V2)	D-2215 D-ABIF	379	Flight development with two BMW VI	Sept. 1931	Unknown



The HD 59a was rebuilt and equipped with a wheeled undercarriage to continue flight development in Russia. (Heinkel)

He 60

The He 60, a two-seat maritime reconnaissance aircraft later used by the Reichsmarine, was constructed by Heinkel from 1930. It was initially flight tested at Warnemünde and then by the E-Stelle. The second prototype was lost during the simulation of a glide attack.



The first He 60 was tested without military armament and equipment by Heinkel in 1931.
(Griehl)

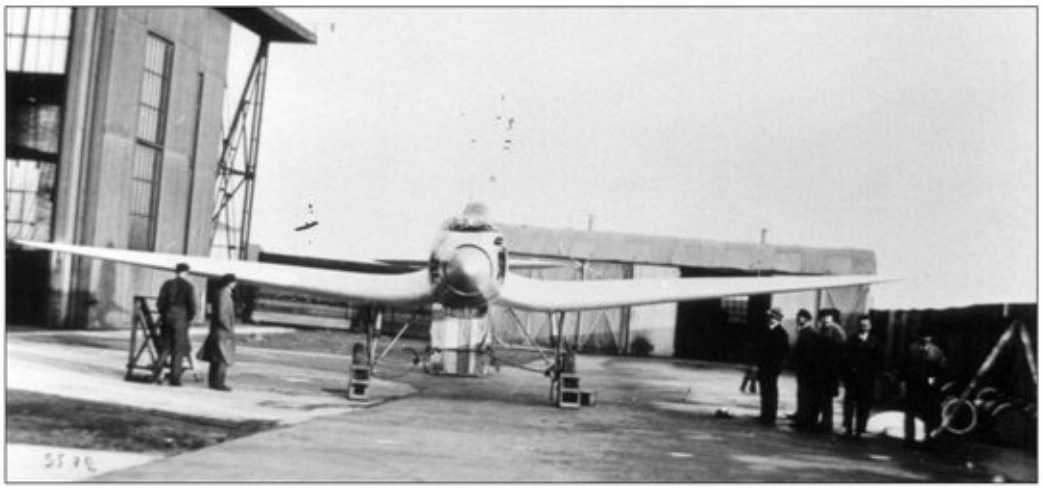
Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
He 60a (V1)	D-2357	0380	Flight characteristics and stability trials	Aug. 1931	Crashed in 1932
He 60b (V2)	D-2716	0381	Flight characteristics, 1st prototype for A series	Aug.1931	Crashed on 16.12.31
He 60c (V3)	D-2325 D-IMEP D-IKAV	0418	Catapult launch tests prototype for B series	Apr. 1932	Unknown
He 60d (V4)	D-3158 D-IHOH	0493	Rear defensive position and tactical evaluation	Apr. 1934	Unknown
He 60 V5	D-2486	0431	1st prototype for C series	Unknown	Unknown
He 60 V7	D-3214	0485	1st prototype for D series	Unknown	Unknown
He 60 V8	D-IPZI	1573	1st prototype for E series	Unknown	Unknown

The He 60 (V3 shown) won the competition for a shipborne two-seat reconnaissance
aircraft, but was later replaced by the more powerful Ar 196. ***(Selinger)***

He 70

Initially the He 70 was developed as a light airliner able to carry four passengers. From 1935 a military version was developed, fitted with a defensive armament and bomb-release system. Military evaluation was taken over by E-Stelle Rechlin, which also used some He 70s for communication duties.

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
He 70a (V1)	Unknown	0404	Flight tests, undercarriage fixed down, wheel wells faired over	01.12.32	Unknown
He 70b (V2)	D-2537 D-ADZF	0403	Prototype with enlarged fin and improved fuselage	Feb, 1933	Unknown
He 70c (V3)	D-3114 D.UBAF	0457	New landing flaps, also prototype for B series	May 1934	Unknown
He 70d (V4)	D-UBIN D-UBYL	0699	1st prototype for B series with complete equipment	Unknown	Unknown
He 70e (V5)	D-UBEQ	Unknown	1st prototype for C series	Unknown	Unknown
He 70f (V6)	D-UKOL	Unknown	1st prototype for D series	Unknown	Unknown
He 70 V7	D-UFIL	Unknown	1st prototype for E series	Unknown	Unknown

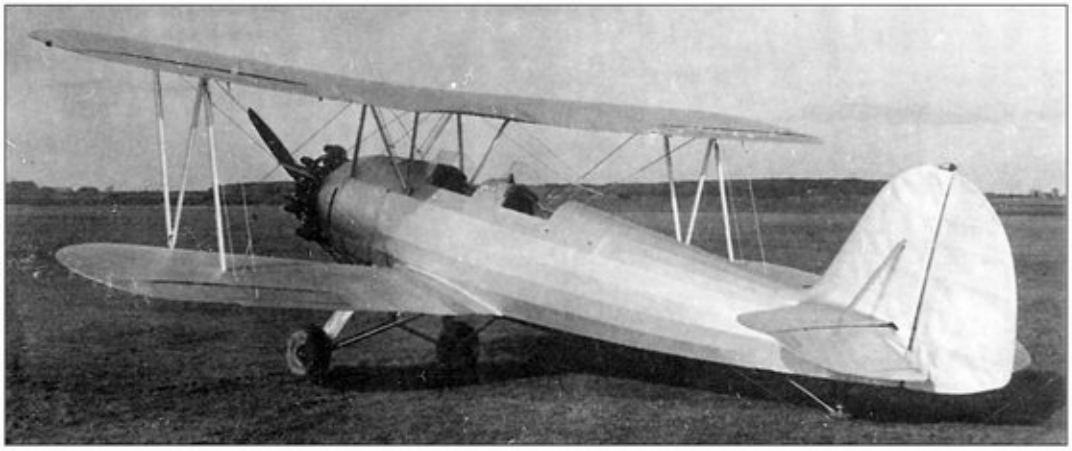


The tethered He 70a was tested by Heinkel specialists on the ground. ***(Krieg)***

He 72 Kadett

The He 72 training biplane was introduced into service in 1934. Flight tests from 1933 were carried out by the Heinkel works. Two more advanced series variants left the production lines in 1934. In 1942 a few He 72s were still operated by E-Stelle Rechlin mainly for use in towing experiments.

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
He 72a (V1)	D-2574	0482	1st prototype fitted with an As 8 B in-line engine	1933	Unknown
He 72b (V2)	D-2589	0483	2nd prototype fitted with a Sh 14 radial engine	1933	Unknown



The He 72b (V2) training aircraft powered by a Siemens Sh 14 radial, was flown without any markings in 1933. ***(Griehl)***

He 74

This single-seat training aircraft was built as a Heimatschützer (‘auxiliary home defence fighter’) in competition with the Ar 76 and Fw 56; the Fw 56 was chosen.

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
He 74a (V1)	D-IVON	441	Flight tests	1934	Sold to Japan in 1935
He 74b (V2)	D-	544	Flight tests	1934	Burnt in its hangar on 17.06.34
He 74 (V3)	D-ITAL	1173	Flight development of He 74 B series	1935	Unknown

The He 74a (V1 shown) was propelled by an Argus As 10 C, later replaced by an As 10
E-series. It competed against the Ar 76 and Hs 121/125. (Heinkel)

He 100

The He 100 was intended as a front-line fighter but never achieved series production, though nineteen pre-series aircraft (A-0) were built. Two He 100s (GP+AG and GP+AI) were flown at Rechlin in July 1940. Besides the installation of special variants of DB 601 and advanced cooling systems no further use was reported. Production of the Bf 109 and Fw 190 left no opening for an additional day-fighter.

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
He 100 V1	D-ISVR	1901	Flight development with DB 601 A in-line engine	22.01.38	Unknown
He 100 V2	D-IUOS	1902	Engine and performance tests up to 634 km/h speed	17.05.38	Unknown
He 100 V3	D-IDGH	1904	Performance record flight with a DB 601 RE IV	June 1938	Crashed in Aug. 1938
He 100 V4	D-IRCN	1903	Armament installation	Sept. 1938	Unknown
He 100 V5	D-ISRO	3001	Prototype pre-series He 100 A-0	16.11.38	Unknown
He 100 V6	D-IACI	3002	In-line engine tests	Feb. 1939	Unknown
He 100 V7	D-IQRS	3003	New heat exchanger	Mid-1939	Unknown
He 100 V8/R	D-IDGH	1905	Record aircraft with a speed of 770 km/h	Nov. 1938	Unknown
He 100 V9	D-IWOP	3004	Armament Installation DB 601 M, later static tests	Mid-1939	Unknown
He 100 V10	D-ITLR	3005	Shorter wings as used with He 100 V8	Mid-1939	Unknown

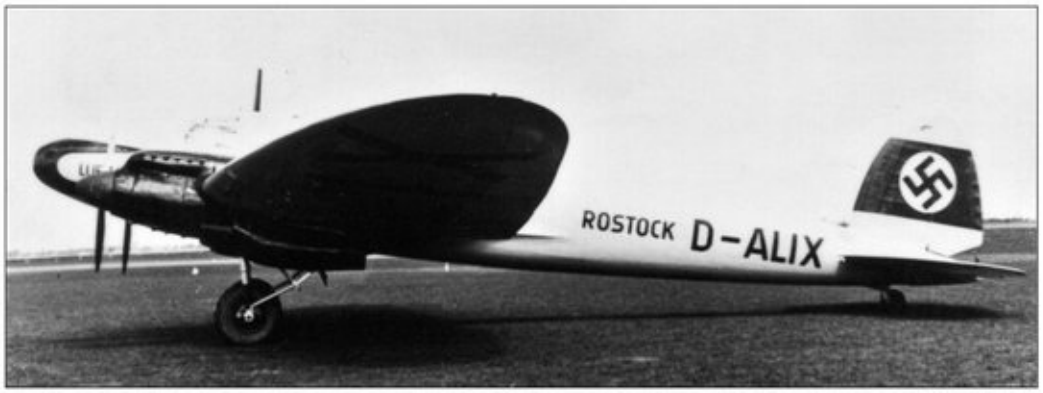
The second prototype of the advanced single-seat He 100 fighter, D-IUOS, was used
for high-speed and performance trials. (Heinkel)

The first He 111a (V1) was unarmed but equipped to carry three flexible-mount machine guns. It was intensively tested by Heinkel. ***(Borzutzki)***

He 111

The He 111 medium bomber and airliner was developed simultaneously for service with Lufthansa and the Luftwaffe. Numerous versions up to the He 111 H-23 were designed and built in various quantities until 1944. Several He 111s were tested by the E-Stelle Rechlin and at other KdE locations or used as testbeds for different equipment fits, engines, bombs and wireless operation sets.

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
He 111a (V1)	D-ADAP	0713	General flight tests and military evaluation	24.02.35	Unknown
He 111b (V2)	D-ALIX	0715	General evaluation of Verkehrsflugzeug (civil airliner)	14.03.35	Crashed in 1937



The second prototype He 111 (V2, D-ALIX) made its first flights near Rostock in 1935.
(Heinkel)

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
He 111 V3	D-ALES	0714	1st prototype for He 111 A-0 series (bomber)	Mid-1935	Unknown
He 111 V4	D-AHAO	1968	1st prototype for He 111 C-0 series, civil use	End 1935	Unknown
He 111 V5	D-APYS D-AJAK	1440	He 111 A-0 pre-series a/c later rebuilt to B-0 standard	Early 1936	Unknown
He 111 V6	D-AXOH	1432	Engine evaluation, later became He 111 V11	Mar. 1936	Unknown
He 111 V7	D-AUKY	1537	Wings for He 111 P-0, later became He 111 V19	Mid-1938	Unknown
He 111 V8	D-AQUO	1664	B-0 used for He 111 P-0 development	Jan. 1938	Unknown
He 111 V9	D-AQOX	1807	Prototype used for He 111 D-0 development	Mid-1937	Unknown
He 111 V10	D-ALEQ	1437	First He 111 E-0 pre-series prototype	Mid-1939	Unknown
He 111 V11	D-AXOH	1432	First He 111 F-1 series prototype, based on B-1	July 1937	Unknown
He 111 V12	D-AEQA	1435	New wings and glycol cooling system planned	Mid-1937	Crashed on 14.12.41
He 111 V13	D-AYKI	1438	Improved defensive armament and weapons tests	1938	Unknown
He 111 V14	D-ACBS	1436	Installation of vertical bomb-release system	1938	Unknown
He 111 V15	D-ADCF NG+WF	1433	Performance tests and equipment evaluations	1938	Crashed on 25.01.42
He 111 V16	D-ASAR PF+HA	Unknown	Used as personal transport by GFM Erhard Milch	1938	Unknown

He 111 V3 was the second military prototype built and differed little from the proposed
A-0 series aircraft. (Heinkel)

He 111 V10 was fitted with more powerful in-line engines and became the forerunner
of He 111 E-1 combat aircraft later used by the Luftwaffe. (Heinkel)

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
He 111 V17	D-ACBH	Unknown	First He 111 F-4–prototype finally rebuilt as He 111 H-1	1938	Unknown
He 111 V18	D-ADUM	1003	First He 111 J-prototype then P-1, finally H-1-a/c	1938	Unknown
He 111 V19	D-AUKY	1537	Rebuilt He 111 V7 to H-1 standards, later used for bomb development trials	Jan. 1939	Unknown

D-ASAR was the first G-4 aircraft built and was later often used by Ernst Udet. (Heinkel)

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
He 111 V20	Unknown	Unknown	Prototype use for Lufttorpedo (LT: aerial torpedo) trials proposed	Feb. 1937	Unknown
He 111 V21	D-ADOU	1441	Additional flaps tested, later used for torpedo tests	Early 1937	Damaged on 3.05.37
He 111 V22	D-ANTI	2314	Auxiliary long-range recce with increased fuel capacity	1938	Unknown
He 111 V23	D-AHAY	2343	Evaluation of a prone position beneath fuselage and improved heating system	1938	Unknown
He 111 V24	—	—	Prototype cancelled	—	—
He 111 V25	Unknown	Unknown	Improved defensive arms and aerial torpedo trials	1938/39	—
He 111 V26 to He 111 V28	—	—	Prototype cancelled	—	—
He 111 V29	RJ+NE	5556	Evaluation of He 111 H-2 usage of heavy weapons	1939	—
He 111 V30	—	—	Prototype cancelled	—	—
He 111 V31	—	—	Prototype cancelled	—	—
He 111 V32	D-APZD	2122	Development of high-altitude combat a/c	Jan. 1942	Unknown
He 111 V33 to He 111 V45	—	—	Prototype cancelled	—	—
He 111 V46	Unknown	Unknown	Rebuilt He 111 H-6 to He 111 H-20 standards	Early 1943	Unknown
He 111 V47	Unknown	Unknown	See He 111 V46, used for loading trials with bombs	Early 1943	Unknown

He 111 ZV1 was the first of a small batch of tug aircraft, using two joined He

111H fuselages
for towing heavy transport gliders like the Me 321 or up to three Go 242s.
(Herwig)

The He 112 was the most serious challenge to Willy Messerschmitt's Bf 109 single-seat
fighter but development was abandoned by the RLM. ***(Nowarra)***

He 112

The RLM did not authorise development of the He 112 single-seat day-fighter, preferring Heinkel to concentrate on medium and heavy bombers while Messerschmitt produced fighter and destroyer aircraft. Although the performance and the layout of the He 112 were promising it had no chance of reaching production.

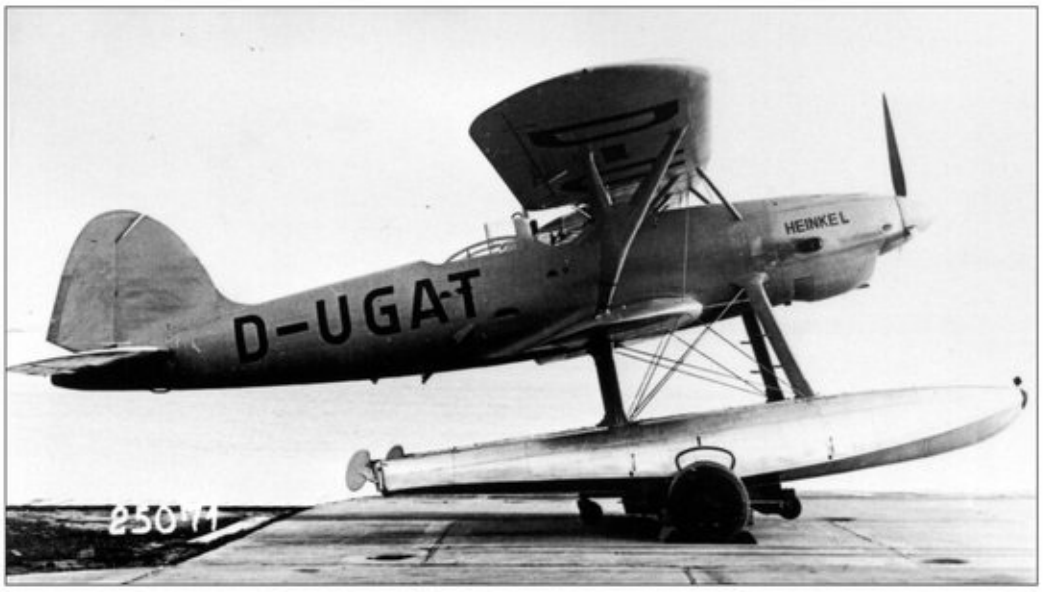
Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
He 112 V1	D-IADO TH+HW	1290	Evaluated with RR Kestrel engine	Sept. 1935	Unknown
He 112 V2	D-IDMO	1291	Evaluated with Jumo 210 C engine	Nov. 1935	Lost in Apr. 1936
He 112 V3	D-IHGE	1292	Tested with complete armament installation	Apr. 1936	Unknown
He 112 V4	D-IZMY	1293	Test with a rocket engine fitted in rear fuselage	Mid-1938	Unknown
He 112 V5	D-IIZO	1951	1st He 112 A-0 pre-series a/c with two MG FF	Aug. 1936	Crashed on 19.07.37
He 112 V6	D-ISYE	1952	Advanced wing structure	Aug. 1936	Unknown
He 112 V7	D-IKIK	1953	1st He 112 B-0 (MG FF)	Oct. 1936	Unknown
He 112 V8	D-IRXO	1954	Tactical tests in Spain	Oct. 1936	Destroyed on 18.07.38
He 112 V9	D-IGSI	2044	Tactical tests in Spain	Oct. 1936	Destroyed 14.02.39
He 112 V10	D-IQMA	2253	Prototype with Jumo 211 A fitted	Mar. 1937	Unknown
He 112 V11	D-IYWE	2254	Closed cockpit and Jumo 211 A in-line engine	Mar. 1937	Unknown
He 112 V12	D-IRXS	2253	1st He 112 C-0 pre-series Trägerflugzeug (carrier-borne combat aircraft)	Mar. 1937	Unknown

He 112 V8 was powered by a DB 600 Aa but retained an open cockpit. (Heinkel)

He 114

The performance of the He 114 shipborne-and coastal reconnaissance aircraft proved to be inferior to the Ar 196. Therefore the operational career expected by Heinkel failed to materialize. Only a few units were equipped with the Heinkel

floatplane.



The first two He 114s built by Heinkel (here the V2), were powered by the Jumo 210 A
in-line engine and used for performance trials at Warnemünde. (Heinkel)

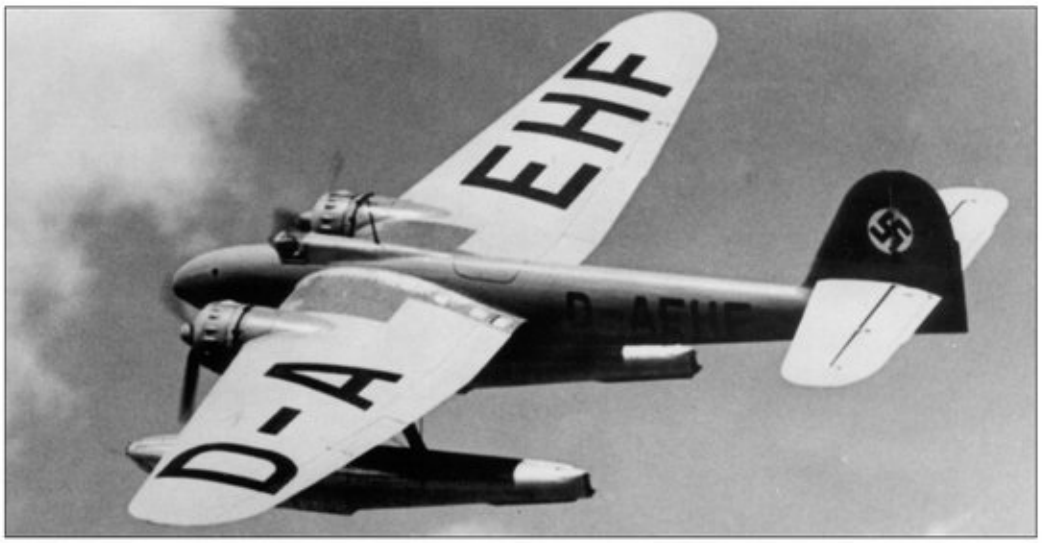
Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
He 114 V1	D-UBAM	1970	Flight development with Jumo 210 in-line engine	Sept. 1936	Unknown
He 114 V2	D-UGAT	1971	2nd prototype fitted with a Jumo 210 engine	Dec. 1936	Unknown
He 114 V3	D-IDEG	1972	1st prototype fitted with a BMW 132 K radial	Apr. 1937	Unknown
He 114 V4	D-IOGD	2255	2nd prototype fitted with a BMW 132 K radial	Aug. 1937	Unknown
He 114 V5	D-IQRS	2256	New strengthened floats enabled starting from iced surfaces	Nov. 1937	Unknown

He 114 V4 was fully equipped with a military armament and became the second prototype
for the He 114 A-1 series aircraft. (Heinkel)

He 115

The He 115 was a three-seat medium maritime reconnaissance aircraft, mine-layer and torpedo-bomber. It was first flown at Warnemünde and then tested by pilots belonging to E-Stelle Travemünde. Because it was too slow, its main operational career ended soon, but a few units operated the He 115 until early 1945.

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
He 115 V1	D-AEHF	Unknown	Flight characteristics, record flight over the South Atlantic	Aug. 1937	Last mentioned Mar. 1939



The first He 115 (V1) received a special marking D-AEHF to promote the designation of the producer 'Ernst Heinkel Flugzeugbau'. (Heinkel)

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
He 115 V2	D-APDS	1554	Float development and testing new NACA cowlings	Mar. 1939	Unknown
He 115 V3	D-ABZV TI+HB	1555	Military development, and A-series prototype	Apr. 1939	Unknown
He 115 V4	D-AHME TI+HC	1977	Development of defensive armament and bomb system	Mid-1939	Unknown
He 115 V5	D-ABBI TI+HD	1842	Prototype of B-series a/c with fixed gun installation	Mid-1939	Unknown

He 115 V4 was flown with the definitive nose section, in which a single MG 15

could be
installed, operated by the observer. (Heinkel)

The first He 116 (V1) entered flight development at the end of 1936 and was equipped
with four HM 508 B in-line engines. (Heinkel)

He 116

The He 116 long-range postal aircraft was projected in 1935 by an agreement between the RLM and Lufthansa. It was tested by Lufthansa and from 1938 it was also issued for long-range photo-reconnaissance duties. It was therefore evaluated by the Versuchsstelle für Höhenflüge (Experimental Centre for High-Altitude Flight).

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
He 116 V1	D-AJIE CR+OB	545	Flight characteristics	09.12.36	Handed over to RLM in 1939
He 116 V2	D-ATIO	546	Equipment development	07.08.37	Crashed on 27.05.38
He 116 V3	D-ARFD CB+QL	1969	Record breaking aircraft	Mid-1937	Deutsche Luftfahrt-sammlung (DLS) formerly based in Berlin

The He 118 V1 was unsuccessful in the heavy dive-bomber competition.
(Heinkel)

He 118

The He 118 heavy dive-bomber was beaten in the Schwerer Sturzkampfbomber competition with the Ju 87 and other designs. Its flight characteristics could not match those of the Junkers type.

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
He 118 V1	D-UKYM	1293	Flight characteristics with Rolls-Royce Buzzard	14.02.36	Crashed in 1938
He 118 V2	D-UHAH D-OVIE	1294	Equipment development	Apr. 1936	Scrapped
He 118 V3	D-UHUR	1295	Armament and equipment development	24.07.36	Scrapped
He 118 V4	D-OMOL	1296	New metal fin, delivered to Japan	Unknown	Broke up in mid-air during test flight
He 118 V5	Unknown	1850	Pre-series a/c for Japan	08.01.37	No information

The fast He 119, which was to be fitted with either a DB 606 or a DB 610, was not accepted
by the RLM due to difficulties with the engines. (Heinkel)

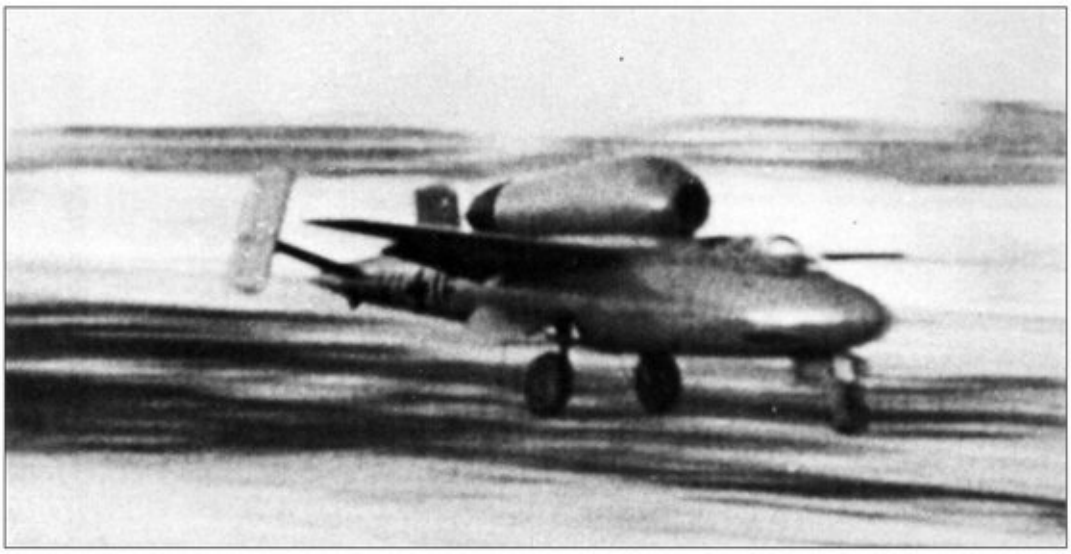
He 119

The He 119 was intended to become a three-seat reconnaissance aircraft, with design beginning in summer 1936. Because of problems with the installation of its Daimler-Benz engines, it was cancelled during the development phase. Six aircraft may have been completed; two were possibly sold to the Japanese armed forces.

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
He 119 V1/ He 119 SV1	D-AUTE	2402	Flight characteristics	Jun 1937	Crashed on 16.12.37 at Travemünde
He 119 V2/ He 119 SV2	D-ASKR	2403	Bomber development, later used for DB engine development	07.10.38	Unknown
He 119 V3/ He 119 SV3	D-ADPQ	2404	Proposed as 1st record aircraft, later fitted with improved wings	Unknown	Deutsche Luftfahrt-sammlung, at the Berlin Museum, from Mar. 1941
He 119 SV4	Unknown	2405	New cowlings, DB 606 A-2 in-line engines	Unknown	Unknown
He 119 V5	Unknown	2406	Proposed as 2nd Weltflug ('world flight') record a/c	May 1941	Unknown
He 119 V6	EN+RC	—	Used for engine development with DB 610	Unknown	Unknown
He 119 V7	—	—	Production cancelled	—	—
He 119 V8	—	—	Production cancelled	—	—

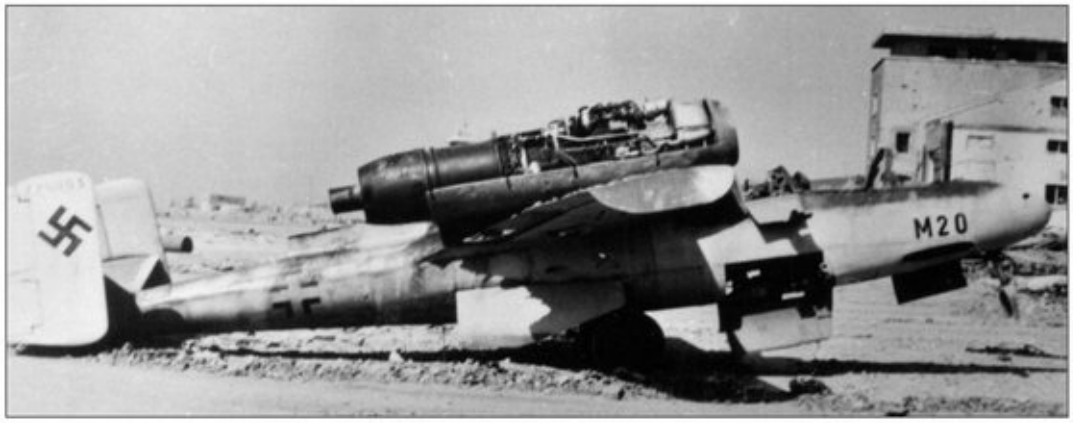
He 162

A specification for a single-seat Kleinstjäger ('ultra-small fighter') jet was issued on 8 September 1944 although the RLM had already decided to produce the He 162 in large numbers. Early evaluation took place at Schwechat near Vienna. Testing by Erprobungskommando 162, established in January 1945, continued at Lechfeld and then at Munich.



The first He 162 prototypes featured the early wing shapes and were tested at Schwechat near Vienna. (Heinkel)

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
He 162 M1	VI+IA	200 001	Flight characteristics	06.12.44	Crashed 10.12.44
He 162 M2	VI+IB	200 002	New ailerons fitted	22.12.44	Last mentioned 23.02.45
He 162 M3	VI+IC	200 003	Enlarged elevator unit	16.01.45	Crashed 25.02.45
He 162 M4	VI+ID	200 004	Stability tests, weapons installation	16.01.45	Last mentioned Feb. 1945
He 162 M5	None	200005	Static testing	24.12.45	Last mentioned 15.02.45
He 162 M6	VI+IF	200 006	Revised fins	23.01.45	Crashed 4.02.45
He 162 M7	VI+IG	200 007	Air brake parachute and testing of wooden components	22.01.45	Damaged 2.03.45
He 162 M8	VI+ICH	200 008	New landing gear and improved wooden parts	12.03.45	Crashed 12.03.45
He 162 M9	None	00 009	Supposed to become a two-seat trainer	—	Never completed
He 162 M10	None	None	Supposed to become a second two-seat trainer	—	Never completed
He 162 M11	None	None	Supposed 1st prototype fitted with Jumo 004 B	—	Destroyed Apr. 1945
He 162 M12	None	200 018	Supposed 2nd prototype with Jumo 004 B	—	Destroyed Apr. 1945
He 162 M13	None	None	Aircraft never built	—	—
He 162 M14	None	None	Supposed 1st prototype fitted with HeS 011	—	Work delayed in 1945
He 162 M15	None	None	Supposed 2nd prototype fitted with HeS 011	—	Work delayed in 1945
He 162 M16	None	—	Prototype not built	—	—
He 162 M17	None	—	Prototype not built	—	—



After the Red Army had overrun Hungary and threatened the Vienna region, Heinkel development was moved to Bavaria. Eventually a few prototypes of He 162 were captured by American ground forces at Riem near Munich. ***(Leslie via USAF)***

M23 was among the damaged He 162 prototypes found in Munich at the war's end. ***(USAF)***

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
He 162 M18	VI+IK	220 001	Enlarged vertical fin	24.01.45	Last mentioned 14.03.45
He 162 M19	VI+IL	220 0002	Improved wooden parts	28.01.45	Crashed 14.03.45
He 162 M20	VI+IM	220 003	MG 151/20 armament	10.02.45	Captured 1.05.45
He 162 M21	VI+IV	220 004	Undercarriage tests	22.02.45	Crashed 7.03.45
He 162 M22	VI+IO	220 005	New landing flaps and stability tests	25.02.45	Damaged 9.03.45
He 162 M23	VI+IP	220 006	New wing incidence	19.03.45	Captured 1.05.45
He 162 M24	VI+IQ	220 007	Advanced series structure	20.03.45	Destroyed Mar. 1945
He 162 M25	VI+IR	220 008	Improved undercarriage	Feb. 1945	Crashed 2.03.45
He 162 M26	VI+IS	220 009	New extended fuselage	17.02.45	Destroyed 31.03.45
He 162 M27	VI+IT	220 010	Series structure	01.02.45	Last mentioned 12.03.45
He 162 M28	VI+IU	220 011	Extended fuselage	18.02.45	Unknown
He 162 M29	VI+IV	220 012	Extended fuselage	19.02.45	Unknown
He 162 M30	VI+IW	220 013	Alternative front section and EZ 45 gunsight	24.02.45	Unknown
He 162 M31	VI+IX	220 014	Reserve aircraft	24.02.45	Unknown
He 162 M32	Unknown	220 020	Weapons tests	15.03.45	Destroyed Mar. 1945
He 162 M33	Unknown	220 021	Additional test aircraft	14.03.45	Unknown
He 162 M34	Unknown	220 022	Additional test aircraft	22.03.45	Unknown
He 162 M35	Unknown	220 023	New wing incidence	14.03.45	Unknown
He 162 M36	Unknown	220 024	New wing incidence	23.03.45	Unknown
He 162 M37	Unknown	220 025	New wing incidence	—	Under construction during Mar. 1945
He 162 M38 to He 162 M42	Unknown	Unknown	Under construction late Mar. 1945	—	Under construction during Mar. 1945

He 170

The He 170 was a fast, lightly armed, three-seat combat aircraft similar to the He 70 and was flown at the Heinkel works at Rostock. The RLM turned it down as a replacement for the He 70 because of its poor payload.

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
He 170 V1	D-OHEW	—	1st prototype	20.08.37	Unknown
He 170 V2	D-OASA	—	2nd prototype	Sept. 1937	Unknown

The He 170 (shown here is the V1) did not meet RLM requirements so later aircraft
only saw service with the Hungarian Air Force. (Heinkel)

He 172

This two-seat unarmed training plane was only produced for evaluation tasks because other light aircraft built by Bücker and other firms had already been introduced into widespread service with the Luftwaffe Fliegerschulen (flying schools).

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
He 172 V1	D-EEPO	1848	1st prototype, fitted with a Bramo Sh14 A-4	03.10.35	Unknown
He 172 V2	D-EEHU	1849	2nd prototype, used for flight development	1935	Unknown
He 172 V3	Unknown	—	3rd prototype, possibly not completed	—	—
He 172 V4	D-EEON	—	4th prototype, fitted with two floats	—	—

He 176

This all-metal rocket-propelled prototype was ordered by the RLM in 1936. The mock-up was finished early in 1937. After a very few test flights of the rocket-powered He 112 R, the He 176 was fitted with an R II 102 rocket engine, which often failed, however. Development was cancelled in mid-March 1939.

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
He 176 V1	—	00 0001	Flight characteristics and development	08.01.39	Luftfahrtsammlung Berlin, destroyed by an air raid, 1943
He 176 V2	—	00 0002	A/c only 75% complete	—	All parts scrapped
He 176 V3	—	00 0003	A/c not completed	—	All parts scrapped

The only known photo of He 176 V1 which differs substantially from many of the artists'
drawings made after the Second World War. ***(Heinkel via Rohrbach)***

He 177 A-0 to A-6

The sole heavy Fernbomber ('long-range bomber') aircraft to be built in large numbers, the He 177, was designed for the Bomber A competition started in mid-April 1937. There were many crashes in testing due to several technical problems, often caused by engine overheating. With strengthened construction, revised undercarriage and improved defensive armament, the He 177 A-7 finally became a reliable bomber.

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
He 177 V1	CB+RP	00 0001	Flight characteristics and performance tests	19.11.39	Damaged 03.10.41
He 177 V2	CB+RQ	00 0002	Stability tests and new horizontal tailplane	21.04.40	Broke up in air 27.06.40
He 177 V3	D-AGIG	00 0003	Stability tests and new horizontal tailplane	Early 1940	Crashed 24.04.40
He 177 V4	Unknown	00 0004	Performance and diving tests	04.09.40	Crashed 08.06.41
He 177 V5	PM+OD	00 0005	Performance and tail plane experiments	30.09.40	To Heinkel on 23.06.41
He 177 V6	BC+BP	00 0006	1st armament evaluation a/c	28.01.41	To KG 40 on 23.06.43
He 177 V7	SF+TB	00 0007	2nd armament evaluation a/c	14.03.41	To KG 40 on 23.06.43 for training purposes
He 177 V8	SF+TC	00 0008	Evaluation flaps, shortened Fowler flaps and engines	24.04.41	To Heinkel on 26.06.43
He 177 V9	GA+QQ	00 0023	Four separate engines and K12 flight controls	06.02.42	To Rechlin on 15.08.44
He 177 V10	GA+QR	00 0024	1st He 177 A-2 with a pressurized cockpit	05.02.42	Cannibalized on 28.06.44
He 177 V11	GA+QS	00 0025	2nd He 177 A-2 with a pressurized cockpit	Unknown	To Rechlin on 26.06.44
He 177 V12	GI+BL	15151	Variously modified for weapons trials	Unknown	To Eger depot on 22.07.43
He 177 V13	—	—	—	—	Proposal, reserve aircraft
He 177 V14	GI+BM	15152	He 177 A-1, evaluation of Kehl III installation (FuG 203c guidance system for remotely-controlled weapons)	Unknown	Final whereabouts unknown

He 177 V2 was tested at Warnemünde from 1940 and featured the early type of cockpit section. (Heinkel)

This photo of He 177 V7 (SF+TB) at the E-Stelle Rechlin was taken during the evaluation
by Luftwaffe pilots in 1941. ***(Birkholz via Petrick)***

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
He 177 V15	Unknown	355 001	He 177 A-3 fitted with a new cockpit for dive tests	Unknown	Crashed 24.06.44
He 177 V16	Unknown	355 004	He 177 A-3 pattern aircraft for radio installation	Unknown	Delivered 28.10.42
He 177 V17	Unknown	355 005	He 177 A-3 pattern a/c for torpedo installation	Unknown	Delivered 14.04.42
He 177 V18	GA+QX	00 0030	He 177 A-0 with two MK101 in lower nose position	25.04.42	Final whereabouts unknown
He 177 V19	VF+QA	332 101	He 177 A-3 with two DB 610s, powerplant tests	22.03.43	Destroyed 13.11.43
He 177 V20	VF+RD	15254	He 177 A-1 rebuilt to A-3 standards, with tail turret	Unknown	Last mentioned 11.02.44
He 177 V21	VF+QB	332 102	He 177 A-3 rebuilt to A-5 pattern aircraft with Kehl IV (FuG 230d guidance system)	Unknown	At Heinkel as of 02.03.44
He 177 V22	VF+QD	332 104	Evaluation of stall characteristics	10.12.42	At Munich on 01.12.44
He 177 V23	VF+QL	332 112	Performance evaluation, slotted ailerons and DB 610	01.09.43	To FFS (B) Burg in June 1944
He 177 V24	ND+SS	135 024	He 177 A-3 rebuilt to A-5, de-icing trials, two DB 610s	Unknown	To Rechlin on 06.11.43
He 177 V25	GI+BN	15153	Pattern a/c with enlarged fin and rudder section	Unknown	To Rechlin on 28.04.44

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
He 177 V26	GA+QM	000019	Replacement aircraft for an improved LT (aerial torpedo) installation	Unknown	Final whereabouts unknown
He 177 V27	Unknown	15203	He 177 A-1 with enlarged fin and shorter fuselage	Unknown	Destroyed 05.04.44 (KG 1)
He 177 V28	Unknown	355 056	He 177 A-3 with automatic flight controls	Unknown	On 22.07.43 to Patin GmbH (autopilot manufacturing company)
He 177 V29	GO+IF	15155	He 177 A-1 pattern aircraft with remote-controlled guns	Unknown	Burnt out in Oct. 1943
He 177 V30	ND+SM	135 018	He 177 A-3 with improved aerial torpedo installation	Unknown	Final whereabouts unknown
He 177 V31	TM+IF	505202	He 177 A-5 with LT 950 aerial torpedoes	Unknown	Blown up July 1944 in France
He 177 V32	GP+WC	535 353	He 177 A-6 pattern aircraft weapon turret HL 131 V	Unknown	In evaluation July 1943
He 177 V33	GP+WD	535 354	He 177 A-6 pattern aircraft weapon turret HL 131 V	Unknown	In evaluation July 1943
He 177 V34	GP+WN	535 364	He 177 A-6 pattern aircraft weapon turret HL 131 V	Unknown	In evaluation July 1943
He 177 V35	GP+WP	535 366	He 177 A-5 with pressurized cockpit for dive tests	19.11.43	To Werneuchen on 14.07.43
He 177 V36	Unknown	323 121	He 177 A-1 rebuilt to A-3, de-icing system and Kehl IV	Unknown	Crashed on 14.01.44
He 177 V37	KM+TN	550 038	He 177 A-5 pattern aircraft with FuG 207 and FuG 208	Unknown	To Peenemünde on 25.05.44
He 177 V38	KM+TB	550 002	He 177 A-5 with bomb bay of projected Ju 287 A-1	15.12.43	Captured at Prague-Rusin on 08.05.45
He 177 V39	KM+TY	550 049	He 177 A-5 with wooden bomb bay doors and PDS (Patin-Dreiachsen-Steuerung: autopilot)	Unknown	To Rechlin in July 1944
He 177 V40	GR+MH	535 850	He 177 A-3 with FuG 217 and FuG 240 Berlin	Unknown	To Werneuchen on 25 July 1944
He 177 V41	Unknown	Unknown	He 177 A-7 pattern aircraft with enlarged wings	Unknown	Unknown
He 177 V42	Unknown	Unknown	He 177 A-7 pattern aircraft with altered armament	Unknown	Unknown

He 177 B-5

The first four He 277 B-5s, designed to be fitted with four separate DB 603 A/E in-line engines, were built from mid-1943. This new series was proposed to replace the He 177 A-3s and A-5s and the prototypes were tested by Heinkel crews at Zwölfaxing near Vienna.

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
He 177 V101	NN+QQ	535 550	He 177 A-3 rebuilt as B-5 with four separate engines	20.12.43	Destroyed by own forces at Eger, 1945
He 177 V102	GA+QQ	0100 0023	He 177 A-0 rebuilt as B-5 twin fin and rudder assembly	28.02.44	Collision on 22.04.44
He 177 V103	KM+TT	550 036	He 177 A-5 rebuilt as B-5, HL 131 V tail turret	26.06.44	Destroyed by own forces
He 177 V104	KM+TE	550 055	He 177 A-5 rebuilt as B-5, pattern aircraft for series as He 177 A-5 (not completed with single engines)	04.05.44	Destroyed by own forces

He 177 V101, seen after its destruction, belonged to the B-5 series. Heinkel offered it as a heavy long-range combat aircraft with an HL 131 V turret fitted behind the fin. ***(Kosnar)***

He 178

This was the first Heinkel prototype with the He S3b jet designed by Dr. von Ohain. After various ground tests of the new powerplant, the type was flight-tested in summer 1938. The RLM had little interest in this new type of engine at this stage, so tests ended then.

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
He 178 V1	None	000 001	Flight development with one Heinkel S3b jet engine	27.08.38	Unknown
He 178 V2	None	000 002	Aircraft not completed	—	All parts scrapped

The jet-propelled He 178 was only under development for a short time because the RLM believed that piston-engined fighters would be fast enough for years to come. ***(Nowarra)***

He 219

Although the He 219 night-fighter design was remarkable and had reasonably good performance in 1943 and 1944, the increased speed of enemy planes meant that more powerful engines, like the DB 603 E or Jumo 222, were desirable. Because these were in short supply most He 219s saw combat with DB 603 As, until the final A-7 production series built at Schwechat.

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
He 219 V1	VG+LW	000 001	Flight characteristics without radar installation	06.11.42	Mentioned on 01.02.44
He 219 V2	GG+WG	000 002	Flight and dive tests	10.04.43	Crashed on 10.07.43
He 219 V3	Unknown	000 003	Engine and undercarriage tests	1943	Crashed on 18.04.43
He 219 V4	DH+PT	190 004	Development with four flame dampers and engine development at Rechlin	1943	Mentioned in Apr. 1944
He 219 V5	DH+PU	190 005	Installation of four MK 108 in a bulge beneath the fuselage	1943	Flown by E-Stelle Rechlin during Feb. 1944
He 219 V6	DH+PV	190 006	Installation of ejection seats for both crew members	1943	Last mentioned on 29.10.43
He 219 V7	DH+PW	190 007	Tactical development by Luftwaffe pilots	1943	Crashed on 19.04.44
He 219 V8	DH+PX	190 008	Evaluation of a new undercarriage	1943	Mentioned in Mar 1944

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
He 219 V9	DH+PY	190 009	Tactical development	1943	Crashed on 12.06.43
He 219 V10	Unknown	190 010	Tactical development	1943	Crashed on 6.09.43
He 219 V11	Unknown	190 011	Flight and dive tests	1943	Mentioned on 1.02.44
He 219 V12	Unknown	190 012	Reserve prototype for tactical purposes at Venlo	Unknown	Mentioned in Feb. 1944
He 219 V13	RL+AB	190 052	High speed and different performance measurement	Unknown	Mentioned on 1.02.44
He 219 V14	Unknown	190 058	Rudder and fin development, installation of GM 1 and FuG 16 ZY	Mar. 1943	Mentioned on 1.02.44
He 219 V15	RL+AD	190 064	Prototype fitted with GM 1 system and used for electronic tests by Telefunken	Mar. 1943	Mentioned in Apr. 1944
He 219 V16	RL+AJ	Unknown	Enlarged wings and Jumo 222s and FuG 16 ZY	Early 1943	Mentioned on 1.02.44
He 219 V17	PK+QJ	190 060	Engine development DB 603 A with a G supercharger unit	Early 1943	Mentioned in Apr. 1944
He 219 V18	BF+JF	190 071	First a/c with up to six MK 103 guns and Jumo 222 radial engines	Early 1943	Mentioned in Apr. 1944
He 219 V19	Unknown	Unknown	Proposed for testing a pressure cabin	Unknown	Unknown
He 219 V20	Unknown	190 020	Proposed for testing a pressure cabin	Unknown	Unknown

The He 219 advanced two-seat night-fighter was built in insufficient quantities. He 219 V1 (shown) was used for general flight development and performance trials. ***(Held via Petrick)***

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
He 219 V21	RL+AB	190 062	Evaluation with two new Einheitstriebwerk (standard powerplant)	1943	Unknown
He 219 V22	Unknown	Unknown	Evaluation with two new Einheitstriebwerk	Unknown	Unknown
He 219 V23	Unknown	Unknown	2nd prototype with two Jumo 222s	1943	Mentioned in Apr. 1944
He 218 V24	Unknown	Unknown	Installation of two MK 103 guns in a bulge	1943	Unknown
He 219 V25	Unknown	190 122	Simplified electrical systems and two MK 103, proposed with Jumo 004	1943	Mentioned in Mar. 1944
He 219 V26	Unknown	190 120	Installation of two oblique-mounted MK 108	1943	Mentioned in Apr. 1944
He 219 V27	Unknown	Unknown	1st He 219 B-1 a/c fitted with two Jumo 222s	1943	Mentioned in Feb. 1944
He 219 V28	RL+AH	190 066	A/c for long-term flight tests	1943	Mentioned in Feb. 1944
He 219 V29	DV+BQ	190 069	De-icing trials undertaken by E-Stelle at Rechlin	1943	Mentioned in Apr. 1944
He 219 V30	Unknown	190 101	Tests with one Jumo 004 jet engine	20.09.43	Crashed on 13.11.43
He 219 V31	DV+DB	190 106	Tactical trials, with six MG 151/20	1943	Mentioned in Feb. 1944
He 219 V32	Unknown	190 121	Second a/c with GM 1 system	1943	Mentioned in Feb. 1944
He 219 V33	Unknown	190 063	Evaluation a/c with new antennas	1943	Mentioned in Feb. 1944

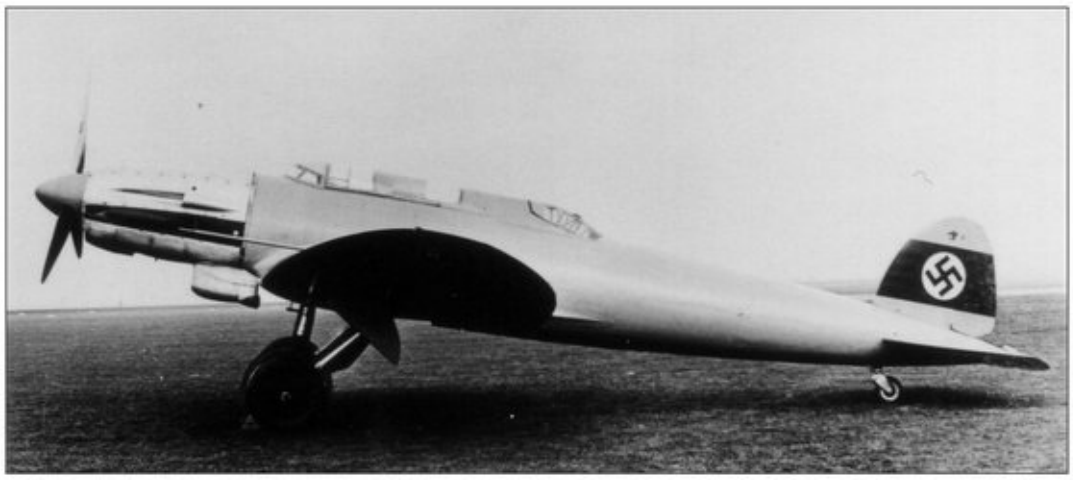
He 219 A-0 (DV+DI, WerkNr. 190061), a prototype from the A-0 production batch,
was used for catapult trials. ***(Lange)***

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
He 219 V34	DV+DH	190 112	Prototype 3-man cockpit	1944	At Eger in May 1945

He 270

The He 270 was designed before a specification for its fast light bomber and reconnaissance type was issued. Because far more powerful combat planes became available in 1939 the RLM did not take the project further.

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
He 270 V1	D-OEHF	1973	Flight evaluation by Heinkel	Early 1938	Unknown
He 270 V2	—	Unknown	Not completed	—	All parts scrapped

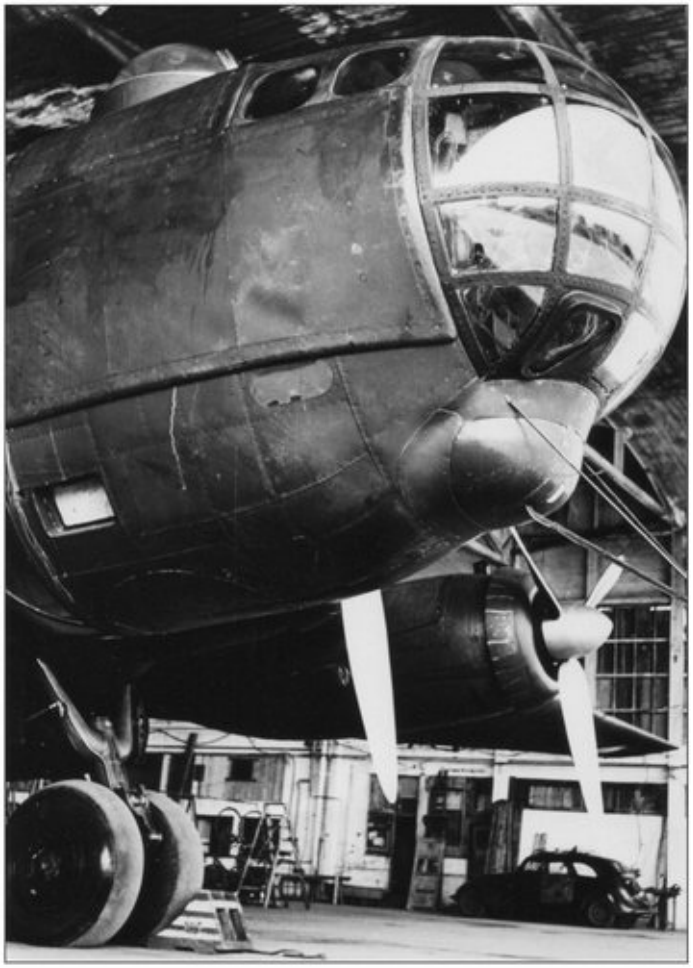


The development of He 270 V1 was terminated in its early stages because the military potential of the three-seat combat aircraft was insufficient. ***(Heinkel via Nowarra)***

He 274

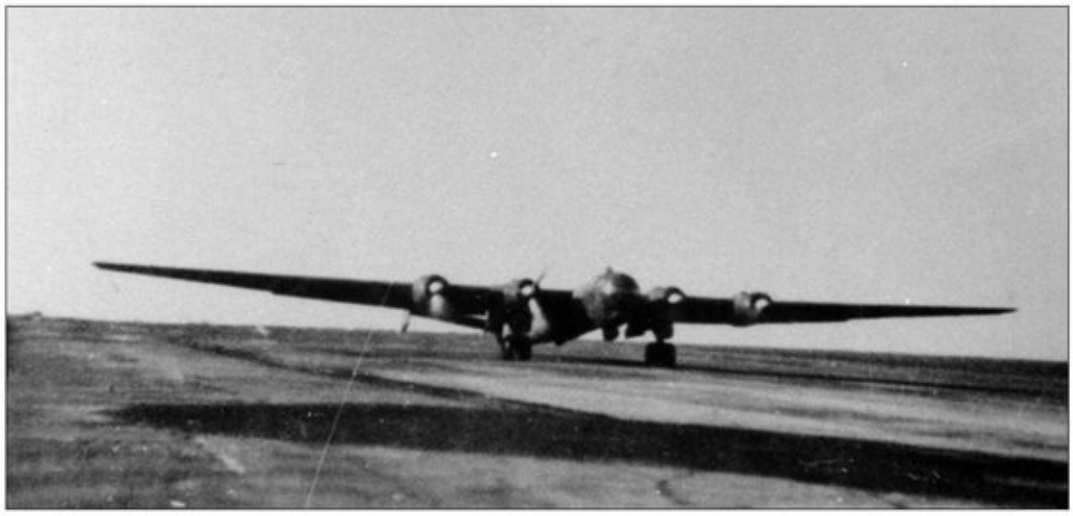
The He 274 long-range high-altitude design was a proposed development of late high-altitude conversions of He 177 reconnaissance types, of which only a few prototypes were built. Development was handed over to French firms and the first prototype, fitted with four DB 603 A-2s, was not completed until after the war.

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
He 274 V1	AAS 01	Unknown	1st prototype	27.12.45	Unknown
He 274 V2	AAS 02	Unknown	2nd prototype, under construction 1945	—	—



The He 274 V1 long-range bomber was developed by French producers to enable Heinkel to concentrate on producing the He 177 A-3 to A-7. After the liberation the sole aircraft, then called AAS 01 'No. 1', was tested by French pilots. ***(Ricco)***

This photo shows the huge AAS 01 during take-off in the southern part of France. ***(Marchand via Ricco)***



Germany's first true jet fighter, the He 280 V1, was initially test-flown as an unpowered
glider released from an He 111 tug. (Heinkel)

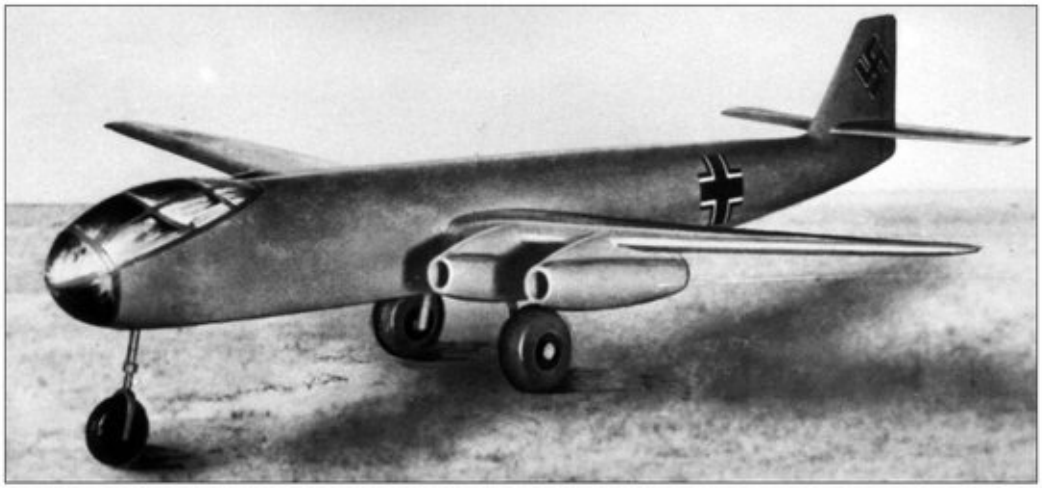
He 280

Evaluation of the first German jet fighter, the He 280, was delayed by the lack of reliable jet engines and did not begin properly until 1941. Because the RLM had decided that Heinkel should concentrate on bomber production, development was terminated finally. Engine unreliability may also have been part of the decision.

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
He 280 V1	DL+AS	280 - 00 0001	Flight characteristics with As 014 jet engines	22.09.40	Crashed on 13.01.43
He 280 V2	GJ+CA	00 0002	Flight characteristics with He S8A jet engines fitted	30.03.41	Crashed on 26.06.43

The third He 280 was later captured by Soviet ground forces early in April 1945 at Vienna-Schwechat. (Heinkel)

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
He 280 V3	GJ+CB	00 0003	Flight characteristics with He S8A jet engines fitted	05.07.42	Captured in Apr. 1945
He 280 V4	—	00 0004	Used for spare parts due to a lack of jet engines	—	Last mentioned end of 1944
He 280 V5	—	00 0005	Prototype not completed	—	—
He 280 V6	—	00 0006	Experimental a/c not completed	—	—
He 280 V7	NU+EB	00 0007	Evaluation of a v-tailplane	19.04.43	Last mentioned Apr. 1945
He 280 V8	NU+EC	00 0008	Flight development with Jumo 004 jet engines	19.07.43	Last mentioned Mar. 1945
He 280 V9	—	Unknown	Prototype not completed	—	—
He 280 V10	—	Unknown	1st He 280 B-1, not built	—	—
He 280 V11	—	Unknown	2nd He 290 B-1, not built	—	—
He 280 V12	—	Unknown	3rd He 280 B-1, not built	—	—



The He 343 jet bomber was under construction from 1944. ***(Nowarra)***

He 343

Development of the He 343 jet bomber was not finished at the end of the war. Only parts had been made. Many were captured by Russian ground forces in the Heinkel hangars at Schwechat near Vienna.

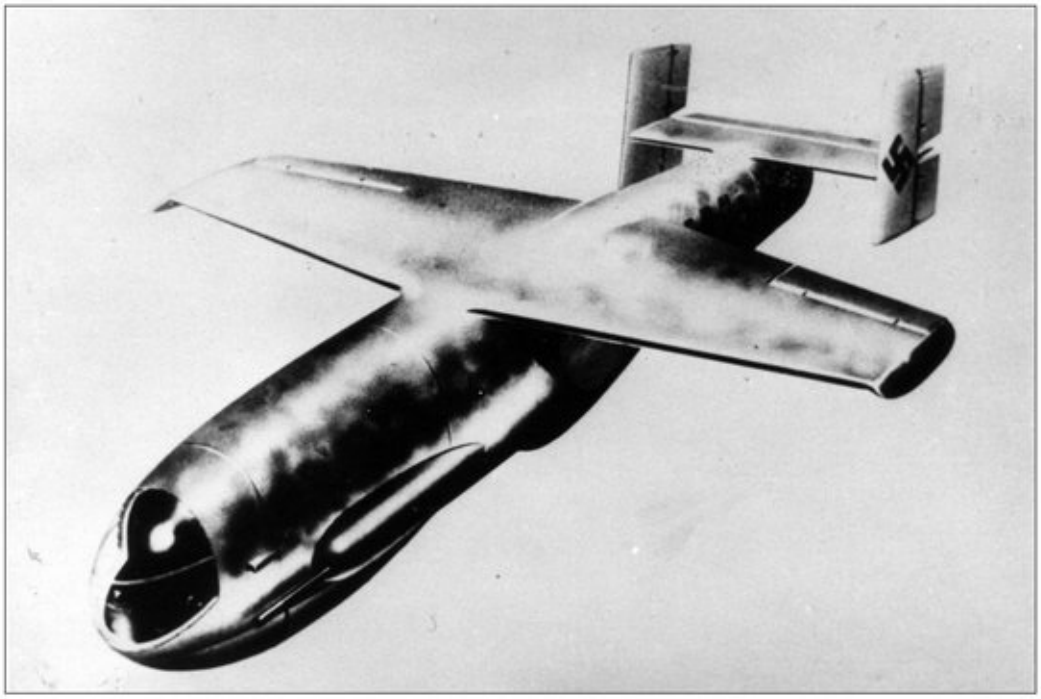
Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
He 343 M1	None	850 061	Flight and engine evaluation, a/c not completed	—	—

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
He 343 M2	None	850 062	Evaluation of weapons and wireless systems, a/c not completed	—	—
He 343 M3	None	—	Contract cancelled, a/c not completed	—	—

He P 1077 Julia

This Heinkel point-defence fighter armed with two MK 108 heavy cannon was developed in summer 1944. Flight evaluation was so delayed that cancellation of the project was considered in February 1945. Vertical take-off trials were prepared that month but were possibly not undertaken.

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
He P 1077 M1	—	—	Flight development not started	—	Unknown
He P 1077 M2	—	—	Flight development not started	—	Unknown



It is believed that a few He P 1077 Julia, all of which were point-defence fighters,
were under construction from late 1944 but were not flown prior to the unconditional
surrender of Germany. ***(Heumann via Nowarra)***

8.13 Henschel

Hs 121

The first aircraft built by Henschel, the Hs 121, was designed by Dipl.-Ing. Friedrich Nicolaus as an advanced training aircraft, known as the Übungseinsitzer für Fortgeschrittene (‘single-seat trainer for advanced pilots’). It was first flown at Berlin-Schönefeld and later test flown at Johannisthal by Major von Greim and his adjutant, Oskar Dinort.

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Hs 121 V1	None	0001	1st prototype used for flight development	04.01.34	Crashed on 30.01.34 during a landing
He 121 V2	D-EOVA	0007	2nd prototype used for flight development, used for training purposes	Mid-1934	Handed over to Flieger-technische Schule (Aerotechnical School) on 10.12.35

The Hs 121 V1 advanced training and home-defence fighter aircraft. ***(Wachtl)***

Hs 122

The Hs 122, a two-seat high-wing monoplane fitted with a SAM 22 radial engine, was first flown at Schönefeld. The first prototype was later tested by the Luftwaffe at Rechlin; both other prototypes followed. After forty-six Hs 122 A-0s and A-1s were built the production was terminated due to the more powerful Hs 126 reconnaissance aircraft.

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Hs 122 V1	D-UQEV	0004	1st prototype, used for training from 2.10.35	Late 1934	Last mentioned on Oct. 1935 at Rechlin
Hs 122 V2	D-UBYN	0005	Fuselage used for Hs 126 V1 prototype	11.01.35	Parts to Zeugamt (equipment depot) at Jüterbog on 25.11.36
Hs 122 V3	D-UDIZ	0006	New cockpit glazing for rear-seat crew member	Mar. 1935	Dismounted, sent to Zeugamt Jüterbog on 5.10.37

The second prototype of the Hs 122 (V2) was built at Schönefeld near Berlin and was tested with an in-line engine installed. (Dabrowski)

Hs 123

The design of the Hs 123 Leichter Sturzkampfbomber (‘light dive-bomber’), a single-seat ground-attack biplane, was created by the Henschel works from 8 February 1934. After successful trials at Schönefeld, tests at E-Stelle Rechlin followed. A minimum of four aircraft were used for dive-and low-level bomb attacks. Trials were also done with improved engines and radios. The aircraft was later replaced by Bf 109 and Fw 190 fighter-bombers.

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Hs 123 V1	D-ILUA	0265	First prototype	02.04.35	To Rechlin on 25.06.35
Hs 123 V2	D-IUPO	0266	Rebuilt as Hs 123 V8	09.05.35	See Hs 123 V8
Hs 123 V3	D-IKOU	0267	New ailerons and improved wireless systems	08.07.35	To Rechlin on 13.08.35

Hs 123 V1, the first prototype, was flown unarmed. ***(Wachtl)***

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Hs 123 V4	D-IXZY	0670	1st prototype for Hs 123 A-0 pre-series a/c	16.04.36	To Rechlin on 29.06.36
Hs 123 V5	D-INRA	0769	1st prototype for Hs 123 A-1 series	June 1937	To Rechlin on 12.01.39

Advanced radio sets were tested on Hs 123 V3. ***(Wachtl)***

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Hs 123 V6	D-IHDI	0797	Evaluation with BMW 132 J radial	June 1937	To BMW Munich on 6.08.37
Hs 123 V7	D-IHBO	0985	Evaluation with BMW 132 J radial	June 1938	To Rechlin on 17.06.38
Hs 123 V8	D-IUPO	0266	No details available	Apr. 1937	To Luftzeugamt (aircraft main equipment depot) Kolleda on 06.12.37

Hs 124 V1 carried a rotating turret fitted in the nose. ***(Herwig)***

Hs 124

The twin-engine Hs 124 multi-role aircraft, developed from 1934, did not meet RLM and OKL performance requirements. Although there was the possibility of selling the Hs 124 to foreign countries, the evaluation was ceased in November 1936. No pre-series aircraft had been built.

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Hs 124 V1	Unknown	0268	1st prototype used for flight development trials with two Jumo 210 Cs	10.10.35	Crashed on 10.04.37
Hs 124 V2	Unknown	0269	Revised undercarriage and stress trials, later equipped with BMW 132 Dc	Jan. 1938	Scrapped by 25.02.38
Hs 124 V3	None	Unknown	Mock-up for high-altitude reconnaissance variant	—	Work ceased mid-1938
Hs 124 V4	Unknown	0270	Advanced variant of V1, new forward fuselage	Sept. 1937	Handed over to E-Stelle Travemünde on 2.06.39
Hs 124 V5	None	Unknown	Static test-bed	July 1936	Scrapped late 1936

Hs 124 V2 was fitted with a bomb-release system in the centre of the fuselage. Because the type had a modest payload, the RLM lost interest in the Henschel design. ***(Herwig)***

Hs 125

Derived from the Hs 121 design, the Hs 125 only differed by having a low-

mounted wing. First trials were done by Professor Nikolaus Scheubel at Henschel's works airfield at Schönefeld. On 21 October 1935 Flugzeugbaumeister Albert Blumensaat (RLM department LC II) carried out a further evaluation.

The Hs 125 (the V2 prototype is shown) was flown as a low-wing variant of the Hs 121 and was equipped with a fixed undercarriage. It was intended to install one or two MG 17 machine guns. (Dabrowski)

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Hs 125 V1	D-EKAN	0002	1st prototype used for flight development	30.04.34	Scrapped 1936
Hs 125 V2	D-IEHA	0003	2nd prototype used for flight development	Apr. 1935	To Aldershof Aerotechnical School on 10.12.36

Hs 126

Construction of the two-seat Hs 126 reconnaissance aircraft began on 28 March 1935. The type was tested with three different engines. After the first evaluation at Schönefeld, the first pre-series aircraft, which became Hs 126 V3 and V4, were sent to E-Stelle Rechlin at the end of 1936 for further engine tests. Later on series production took place at Johannisthal.

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Hs 126 V1	None	0867	1st prototype, fitted with DB 600 engine	13.12.36	Destroyed 30.03.37
Hs 126 V2	D-UJER	0868	2nd prototype, fitted with Jumo 211 engine and used for slats evaluation	Apr, 1937	Scrapped by Dec.1941
Hs 126 V3	D-OECY	126 3001	1st pre-series Hs 126 A-0, fitted with Bramo 325 A	Nov. 1937	To Luftzeugamt Schwerin on 24.09.38
Hs 126 V4	D-OAAF D-IVHB	126 3002	2nd Hs 126 A-0 pre-series a/c, with military equipment	Mar. 1938	Flown to Rechlin on 31.03.38

The second He 126 (V2) reconnaissance plane was tested with full armament, comprising
an MG 15 operated by the observer and an MG 17 fired by the pilot. ***(Nowarra)***

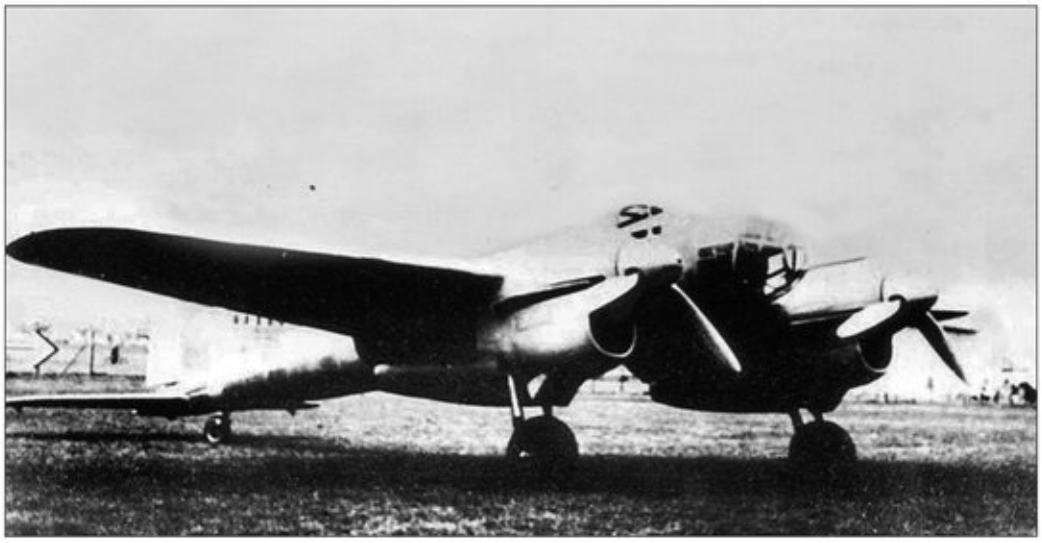
Hs 126 V3 (D-OECY) was powered by an air-cooled Bramo 325 A radial.

(Nowarra)

Hs 127

The fast all-metal Hs 127 took part in a competition for a fast combat aircraft fitted with two DB 600 C in-line engines. Other competitors were the Bf 162, Hs 127 and Ju 88. Evaluation of the Henschel design ceased late in 1939 after the RLM chose the more powerful Junkers bomber.

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Hs 127 V1	Unknown	0744	1st prototype with two Jumo 210 engines	Sept. 1937	To E-Stelle Rechlin on 07.09.39



Only two Hs 127s were built before the RLM cancelled its development.
(Henschel)

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Hs 127 V2	Unknown	0745	2nd prototype with improved equipment, and fitted with new fuel tanks	July 1938	Frame sent to Rheinmetall-Borsig for weapon tests on 20.09.39
Hs 127 V3	Unknown	0746	3rd prototype, fitted with new hydraulic system and larger fuel tanks	Not flown	To KdE for weapon tests on 07.09.39

Hs 128 V1 and V2 were both fitted with a pressure cabin for the crew to carry out high-altitude research. ***(Lange)***

Hs 128

The Hs 127 Höhenforschungsflugzeug, a high-altitude aircraft fitted with a pressurized cabin, was designed to reach a height of more than 16,000 m. This low wing plane was under development from 1936. The first prototype was handed over to the DVL and later became the first Hs 130 prototype.

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Hs 128 V1	D-ARHD	128 3001	First prototype, later rebuilt as Hs 130 AV1/U1	11.04.39	See Hs 130 AV1

The first prototype of the Hs 129 ground-attack aircraft, the V1, had its guns grouped
in pairs on either side of the forward fuselage. (Lutz)

A close-up view of Hs 129 V1 showing the gun ports, ventral bomb racks and early
Argus As 410 in-line engines. (Lutz)

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Hs 128 V2	D-APXN	128 3002	Proposed with Jumo 210G and TK-16 superchargers	Apr. 1940	Captured by British forces early 1945

Hs 129

The Hs 129 was a well-armoured low-level attack and anti-tank aircraft. It took part in an RLM competition in late 1935 with the Fw 189. The first prototype was tested by E-Stelle Rechlin after the aircraft had received a new armoured cockpit fairing and a bomb-release system. After twelve Hs 129 A-0 aircraft, the B-0 series equipped with two radial engines was issued after V3 had been tested with Gnome-Rhône engines.

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Hs 129 V1	D-ONUD TF+AM	129 3001	1st prototype with As 410 in-line engines	26.05.39	To Rechlin on 14.12.39
Hs 129 V2	TF+AN	129 3002	Evaluation of a new canopy	30.11.39	Fatal accident on 05.01.40
Hs 129 V3	TF+AO	129 3003	Prototype for B-series	02.04.40	To Rechlin on 26.06.40
Hs 129 V3/U1	see V3	see V3	Enlarged horizontal fin sections installed	Apr. 1943	Scrapped after July 1944

Hs 130 AV1 was used for high-altitude flights and performance tests from 1940.

(Griehl)

Hs 130

The Hs 130 high-altitude long-range reconnaissance aircraft was developed after Henschel was given a pre-contract in February 1939. Several variants were developed up to 1943, but only a few series aircraft could be delivered to the Luftwaffe due to problems with engines suitable for extreme altitude flight.

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Hs 130 AV1	GM+OM	130 3001	First prototype, rebuilt as Hs 130 V1/U1	23.05.40	Unknown
Hs 130 AV2	GM+ON	130 3002	Rebuilt as Hs 130 V2/U1	12.07.40	Unknown
Hs 130 V3	GM+OO	130 3003	1st prototype for A-0 fitted with DB 601 R-0	Sept. 1940	Unknown
Hs 130 V4	GM+OP	130 3004	2nd prototype for A-0	Sept. 1940	Unknown
Hs 130 C-0/V3	NK+EA	0011	Prototype for Hs 130 C-0, powered by BMW 801 MA-2	10.11.41	Unknown
Hs 130 C-0/V4	NK+EB	0012	Evaluation with BMW 801 MA, changed to BMW 801 J	Mar. 1942	Unknown

The advanced variant of the Hs 130 A was fitted with a Höhenladerzentrale (HZ: 'High

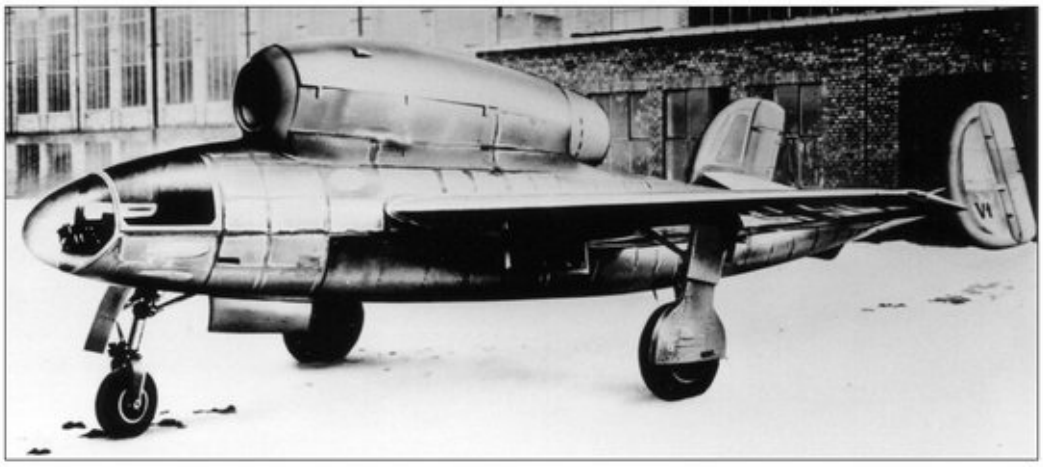
Altitude Supercharger Central Unit') providing compressed air to both engines installed in the wing. The aircraft shown was similar to the E-0/V5 prototype but was destroyed during a low-level attack on 5 September 1944 at Echterdingen near Stuttgart. ***(MBB)***

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Hs 130 E-0/V5	Unknown	0054	Tested with Höhenlader-zentrale, internal Db 605T blower engine, installed in the fuselage	17.11.42	Unknown
Hs 130 V6	GH+ZG	1303006	Used for flight development undertaken by Henschel	Dec. 1940	Unknown

Hs 132

The Hs 132 single jet design was developed from summer 1943 as project P 123. Only a few full metal fuselages were constructed at Schönefeld and wooden wings and fins in the Dresden area. None of the prototypes was ever flown.

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Hs 132 M1	None	None	Prototype under construction early in 1945, approx. 80% complete	—	Captured by Soviet ground forces
Hs 132 M2	None	None	Prototype under construction early in 1945, approx. 80% complete	—	Captured by Soviet ground forces
Hs 132 M3	None	None	Fuselage under construction early in 1945, approx 75% complete	—	Captured by Soviet ground forces



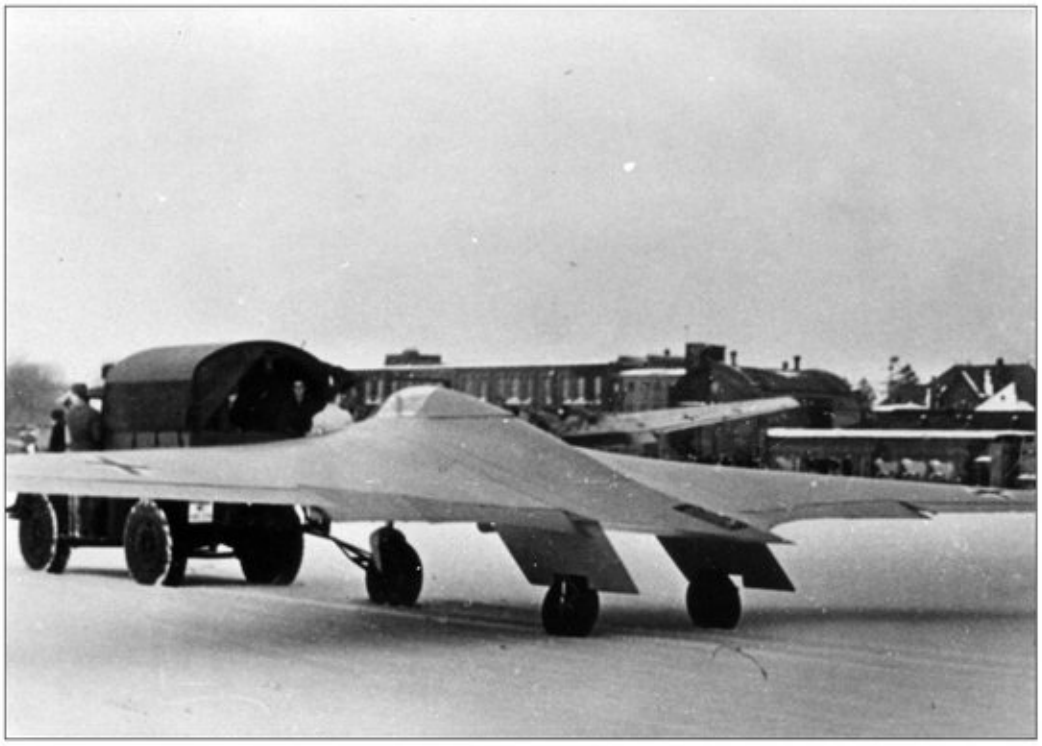
Hs 132 V1 or M1 was never completed because the wooden wings produced near Dresden never found their way to Schönefeld, Berlin, where the metal fuselage was built. ***(Nowarra)***

8.14 Horten

Ho IX

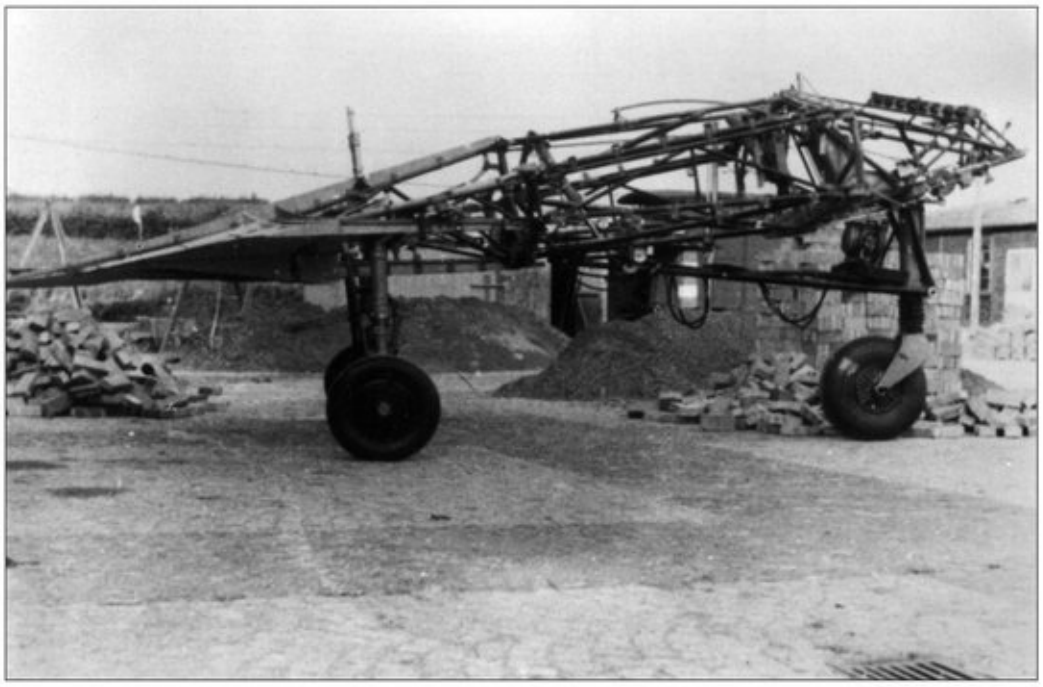
The Ho IX flying-wing jet fighter was designed by Reimar and Walter Horten. The first of only two prototypes completed was tested at an airfield near Göttingen and the second at Oranienburg, propelled by two Jumo 004 B-1 jet engines. A two-seat training variant was planned by the Horten brothers early in 1945 but was never built.

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Ho IX V1	None	—	Flying wing prototype	01.03.44	Captured by US ground forces
Ho IX V2	None	—	First jet powered prototype	02.02.45	Lost on 18.02.45 due to engine failure
Ho IX V3	None	—	A/c completed up to approx. 85%	—	Captured by US ground forces



Ho IX V1 was the first glider prototype of a future flying-wing fighter aircraft propelled by two Jumo 004 B jet engines. ***(Horten)***

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Ho IX V4	None	—	A/c completed up to approx. 25%	—	Captured by US ground forces
Ho IX V5	None	—	A/c completed up to approx. 15%	—	Captured by US ground forces
Ho IX V6	None	—	Only parts available	—	No further information available
Ho IX V7	None	—	A/c not built	—	Only drawings completed



The fourth prototype, Ho IX V4, was under construction near Friedrichroda early in 1945,
but was never completed. It was captured by American soldiers. ***(USAF)***

8.15 Junkers

Ju 49 (J 49)

Only one Ju 49 prototype was built early in the 1930s to carry out experimental high-altitude flights. The initial tests happened at Dessau, a large Junkers works airfield. Later the prototype was handed over to the DVL where it was finally lost.

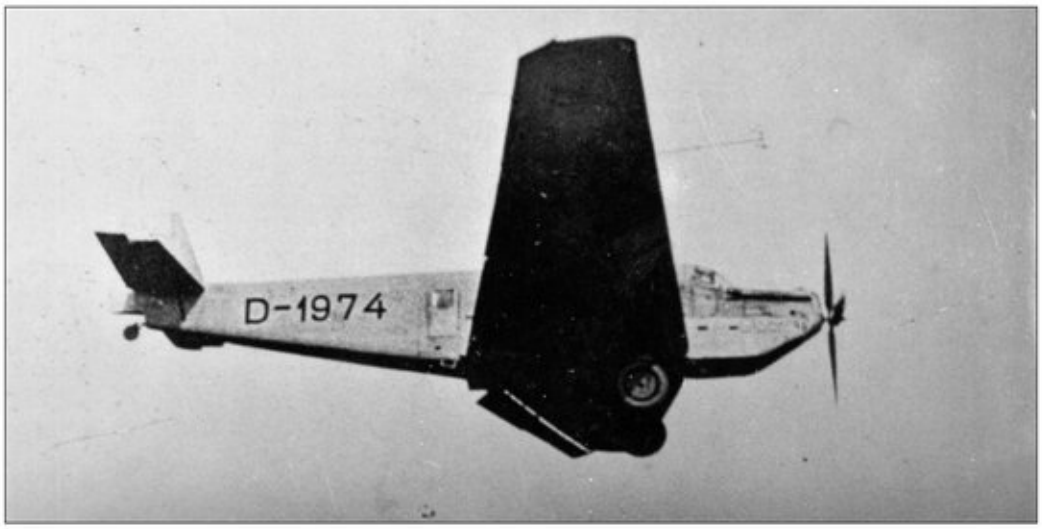
Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Ju 49a (V1)	D-2688 D-UBAZ	3701	Flight development in ultra-high altitudes	02.10.31	Crashed in 1936

The Junkers J 49 was later designated as the Ju 49. Only one example of this high-altitude experimental aircraft, flown by a crew of two sitting in a pressure cabin, became available. ***(Junkers via Nowarra)***

Ju 52/1m (J 52)

Only a few of the first batch of Ju 52s were built. Because the single powerplant was seen as insufficient, plans for mass production were abandoned. A few of the first transport aircraft were used for torpedo launching trials and tests with new equipment components.

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Ju 52 be	D-1974 D-UZYP	4001	General evaluation with a Jumo L 88 engine	11.09.30	A/c taken over by RLM in 1937
Ju 52 ce	D-2133 D-USUS	4002	Evaluation with an BMW VII aU and twin floats	10.03.31	Unknown
Ju 52 cai	D-2356	4005	Evaluation with an BMW IX aU, 1st pre-series a/c	Mid-1931	Burnt on 27.05.33



The first Ju 52 (J 52) was ready for evaluation in the summer of 1930. ***(Wachtl)***

Ju 52/3m (J 52)

Only one prototype of the later series variants fitted with three radial engines was built. In trials for other tasks, including the design of better armed variants, auxiliary bombers, special transport variants, and for testing improved radio sets and new in-line engines, series aircraft were used and tested at the E-Stelle Rechlin or examples were loaned to manufacturers. Only the codes of the twenty-three aircraft used at Rechlin are known.

The first Ju 52/3m had three radial engines. (Deutsche Lufthansa)

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Ju 52 ce Ju 52/3m	None	4008	Development with three BMW 132 radial engines	07.03.32	Unknown

Ju 60 (J 60)

This small but fast airliner was first flown at Dessau and then was tested by Lufthansa. After many difficulties arose the airframe was completely redesigned. The second prototype was later used for liaison duties at Rechlin.

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Ju 60 a Ju 60 V1	D-URIM	4200	Flight evaluation with one Pratt & Whitney Hornet	08.11.32	Unknown
Ju 60 b1a Ju 60 V2	D-2400 D-UNOR D-UPAL	4201	A/c tested as Ju 60/1 after several modifications	26.01.34	Last mentioned in 1936

Ju 60 b1a (later V2, serial number 4201) entered flight development in May 1933.
Later it was evaluated as a small airliner. ***(Nowarra)***

Ju EF 61

Prototypes for this high-altitude design were constructed by Junkers from late 1935. Unfortunately both prototypes were lost in 1937. The aircraft was intended to test a pressurized cabin and attain a flight altitude of more than 12,000 m.

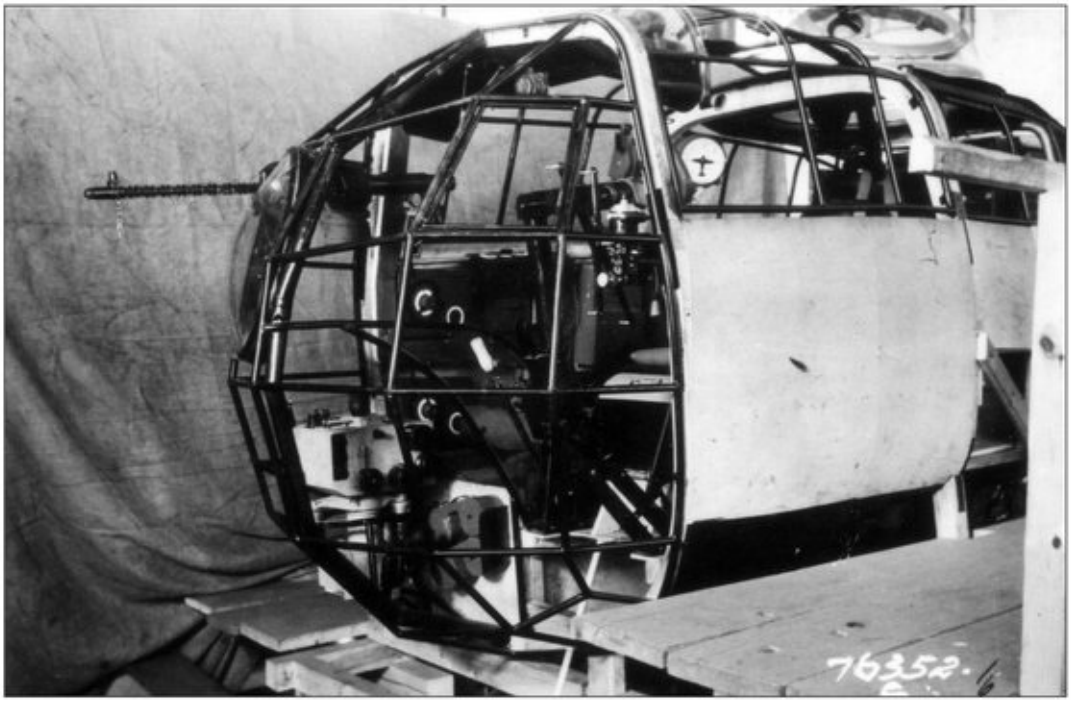
Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Ju EV 61	None	4931	1st prototype of a high-altitude research plane	04.03.37	Crashed on 19.09.37
Ju EF 61	None	4932	2nd prototype of a high-altitude research plane	18.12.37	Crashed in Dec. 1937

The Junkers Entwicklungsflugzeug (EF: 'Development Aircraft') 61, of which only two were assembled, was intended as a high-altitude bomber and reconnaissance type. ***(Junkers)***

Ju 85

The Ju 85 was never built, due to the development of the Ju 88 dive-bomber. However, Ju 85 design work helped create the fully glazed cockpit used in the Ju 88 B development.

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Ju 85	—	—	Not built due to production of Ju 88	—	—



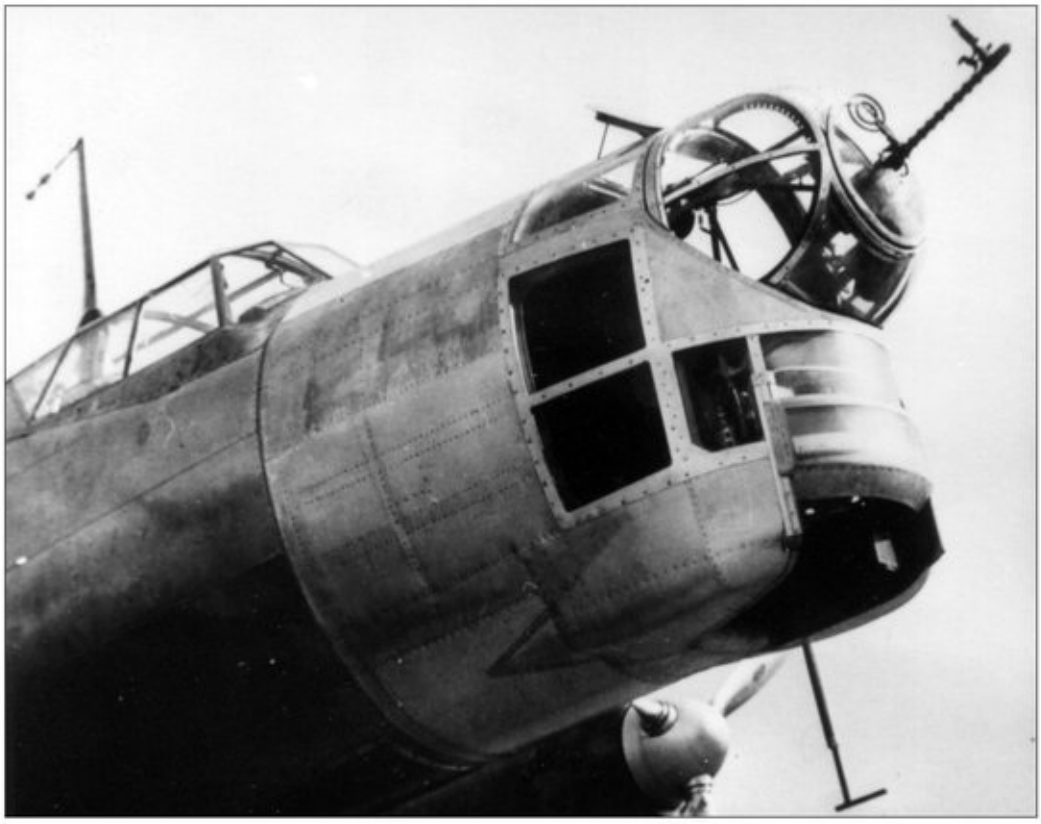
The projected Ju 85 was never flown, but the development helped create the fully glazed cockpit used in the Ju 88 B and Ju 188. The cockpit section was well armed and gave outstanding visibility. ***(Junkers)***

Ju 86

The Ju 86 was a modern all-metal aircraftdesigned at Dessau originally for both civil and military purposes. In military configuration it was known as the Mittlerer Bomber (medium bomber). The first variants were powered by Jumo 205 diesel engines. Later two BMW 132s were used. High-altitude variants were equipped with late Jumo 205s and Jumo 207s. Four aircraft were tested by E-Stelle Rechlin.

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Ju 86a Ju 86 V1	D-AHEH	4901	1st prototype tested as medium bomber a/c powered by two Jumo 205 C	04.11.34	Unknown
Ju 86b Ju 86 V2	D-ABUK	4902	2nd prototype used by Lufthansa, powered by two Jumo 205 C	22.03.35	Unknown
Ju 86 V3	D-ALAL	4903	3rd prototype flown as a medium bomber a/c	10.06.35	Unknown
Ju 86 V4	D-AREV	4904	4th prototype used by Lufthansa	24.08.35	Unknown

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Ju 86 V5	D-AHOE	6001	1st pre-series prototype of Ju 86 A-01	07.03.36	Unknown
Ju 86 V6	D-ANAY	6002	Pre-series prototype for A-0 with lengthened fuselage	18.03.36	Unknown
Ju 86 V7	Unknown	Unknown	Prototype command aircraft (Ju 86 A-0), became a Ju 86 C-1 (Ju 86 Z-1)	Mid-1936	Unknown
Ju 86 V8	D-AVEE	Unknown	Flown with advanced under-carriage system (Ju 86 A-0)	Mid-1936	Destroyed on 16.05.36
Ju 86 V9	Unknown	6003	Used as special photographic reconnaissance a/c Sonderlichtbildner	Late 1936	Unknown
Ju 86 V10	Unknown	6006	Tested with an autopilot and two Jumo 205 C engines	Late 1936	Unknown

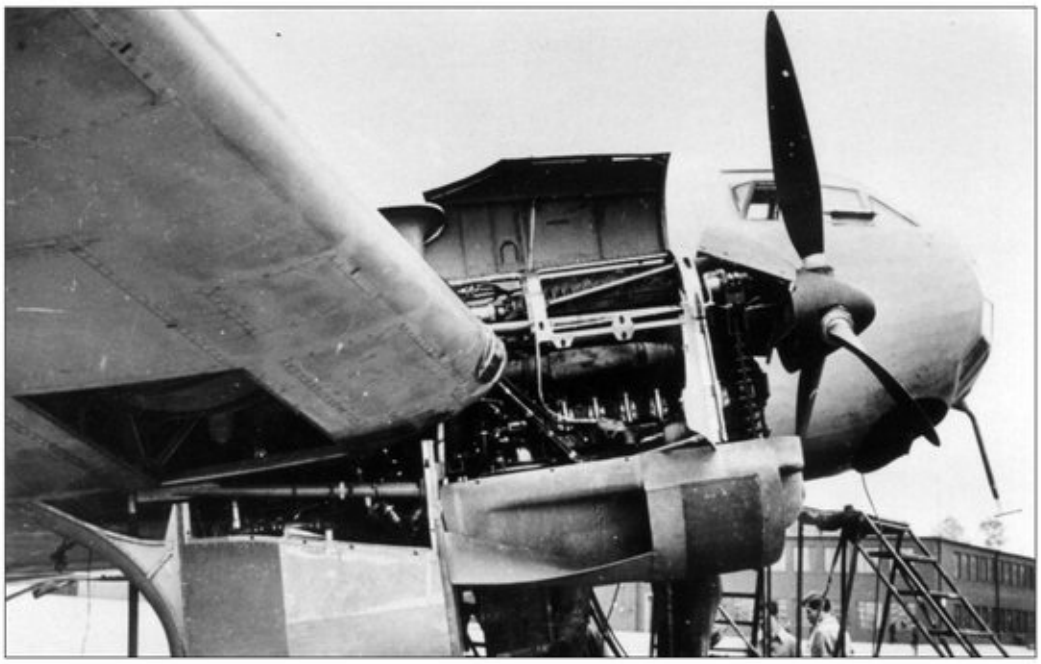


The first Ju 86 military prototypes were very similar. Because defensive armament seemed
weak a new forward section with a single MG 15 operated by the observer was designed.
(Junkers via Nowarra)

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Ju 86 V11	Unknown	6007	Improved prototype of Ju 86 A-1 series	Late 1936	Unknown
Ju 86 V12	Unknown	0055	Tested with BMW 132 F and FD, pre-series a/c for D series	Late 1936	Unknown
Ju 86 V13	Unknown	0052	Long-time evaluation with 2 BMW 132 F (Ju 86 D-1)	End 1936	Unknown
Ju 86 V14	Unknown	0099	Pre-series a/c fitted with two Jumo 207 C engines	End 1936	Unknown
Ju 86 V28	D-AUHB	5156	1st prototype of Ju 86 P-1, evaluation of a pressure cabin	Nov. 1940	Last mentioned on 1.10.41
Ju 86 R/V29	Unknown	860279	Prototype of Ju 86 P-1, P-3 and last R-2, 32.0 m wings	Nov. 1940	Last mentioned on 23.04.1942
Ju 86 V30	Unknown	5097	2nd prototype of Ju 86 P-1 rebuilt as Ju 86 P-5 prototype	Nov. 1940	Last mentioned on 1.10.41
Ju 86 V31	Unknown	860284	Rebuilt Ju 86 G-1 for testing new parts and antennas	Nov. 1940	Last mentioned on 1.10.42
Ju 86 V32	Unknown	860291	Prototype of Ju 86 P-2 with enlarged wing structure	Nov. 1940	Last mentioned on 10.5.41
Ju 86 V33	Unknown	860433	Ju 86 P-1 prototype with only one camera	Mar. 1941	Last mentioned on 1.03.41
Ju 86 V34	Unknown	860293	Rebuilt Ju 86 P-2 with two Jumo 207 B-3/V for Hz 86 R-1	Sep. 1941	Last mentioned on 22.04.1942
Ju 86 V35	Unknown	860286	Second Ju 86 P with a single camera in the fuselage	Mar. 1941	Crashed on 26.02.42
Ju 86 V36	Unknown	850421	Ju 86 P-3 to R-1 standards with Jumo 207 B-3 installed	May 1941	Last mentioned in Jan. 1942

Ju 86 V4 (D-AREV) was flown as an airliner by Lufthansa. Initially the aircraft was named
Dresden *and then operated as* ***Brocken****, a German mountain.* ***(Herwig)***

A few mock-ups of the Ju 86 were constructed. The one shown belonged to the first high-
altitude variant, Ju 86 P-1, powered by two Jumo 205 diesels. (Junkers via Nowarra)



Most Ju 86 prototypes were for high-altitude combat and reconnaissance

aircraft. Ju 86 V30,
shown, was photographed at Junkers' Dessau facility. ***(Lange)***

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Ju 86 V37	Unknown	5161	Rebuilt Ju 86 P-1 to P-3 standard, Jumo 208 B-3V61	May 1941	Last mentioned on 4.12.42
Ju 86 V38	Unknown	860444	Lightened Ju 86 P-1 to become Ju 86 P-5	May 1941	Last mentioned on 1.07.42
Ju 86 V39	Unknown	5132	Lightened Ju 86 P-1 to P-4 bomber standards	May 1941	Last mentioned on 1.10.41
Ju 86 V40	Unknown	5152	Proposed prototype for Ju 86 P-5 development	May 1941	Unknown

Flight development of the Ju 87 V1 was ordered in summer 1935. Although a DB 600 A was
suggested, a British Rolls-Royce Kestrel was finally installed. (Junkers via Herwig)

Ju 87

The Luftwaffe's heavy dive-bomber competition started in April 1934. The Ar

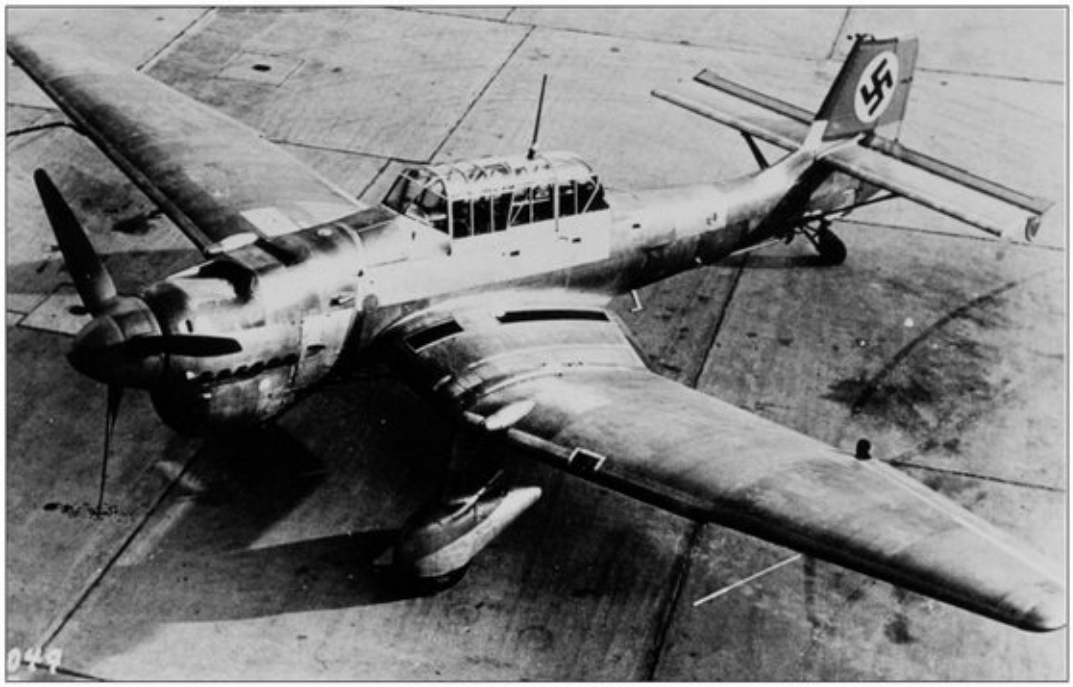
81 and He 118 lost out to the Ju 87. After initial tests at Dessau, some fifteen Ju 87 A to D were sent to E-Stelle Rechlin to evaluate the installation of a more powerful Jumo in-line engine, a more effective bomb-release system and an improved radio set. For trials of the proposed carrier-borne variant, series aircraft were rebuilt. In addition some Ju 87 Bs and Ds were used to evaluate a ski undercarriage and for testing aerial torpedoes.

The second prototype was propelled by a German Jumo 210 Aa but featured an alternative
radiator and a modified rear defensive armament position. (Junkers via Herwig)

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Ju 87 V1	None	4921	1st prototype with double fin and Rolls-Royce Kestrel in-line engine	17.09.35	Destroyed on 21.01.36

Ju 87 V4 became the first prototype of the A-0 series, forerunner of the Ju 87 A-1 standard dive bomber. Equipment of V4 differed little from that of V3. (Junkers via Nowarra)

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Ju 87 V2	D-UHUH D-IDQR	4922	2nd prototype fitted with a Jumo 210 Aa	25.02.36	Unknown
Ju 87 V3	D-UKYQ	4923	General evaluation as a two-seat dive-bomber	27.03.36	Unknown
Ju 87 V4	D-UBIP	4924	Pre-series prototype a/c for future A-0	20.06.36	Unknown
Ju 87 V5	Unknown	4925	2nd aircraft for A-0 series fitted with a Jumo 210 Da	14.08.36	Unknown
Ju 87 V6	Unknown	87 0027	A/c fitted with a Jumo 211 to become 1st Ju 87 B-0	14.06.37	Unknown
Ju 87 V7	Unknown	87 0028	A/c fitted with a Jumo 211 to become a 2nd Ju 87 B-0	23.08.37	Unknown
Ju 87 V8	Unknown	4926	A/c fitted with a Jumo 211 to become a 3rd Ju 87 B-0	11.11.37	Unknown
Ju 87 V9	Unknown	4927	A/c fitted with a Jumo 211 to become a 4th Ju 87 B-0	16.02.38	Unknown
Ju 87 V10	D-IHJH TH+HD	4928	1st prototype navalized for carrier use as Ju 87 C-0	17.03.38	Unknown
Ju 87 V11	D-ILGM	4929	2nd prototype navalized for carrier use as Ju 87 C-0	12.05.39	Unknown



V10 was the prototype of the Ju 87 C-series, intended for service aboard the (never
completed) aircraft carrier ***Graf Zeppelin****, but saw only limited production.*
(Selinger)

Ju 87 V21 (D-INRE) featured an altered Ju 87 B-1 airframe and served as a prototype for the improved Ju 87 D series. ***(Griehl)***

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Ju 87 V12 to Ju 87 V14	—	—	Designated prototypes for Ju 87 C-1 development	—	—
Ju 87 V15	Unknown	87 0321	Development of Ju 87 B-2 with Jumo 211 J and VDM	25.03.39	Unknown
Ju 87 V16	Unknown	5281	DB engine tests at Stuttgart-Echterdingen	06.07.44	Unknown
Ju 87 V17 and Ju 87 V18	—	—	Reserve a/c for further development tasks	—	—
Ju 87 V19	Unknown	4930	Rebuilt Ju 87 B-0 to become a 1st Ju 87 E-0	01.02.42	Unknown
Ju 87 V20	Unknown	Unknown	2nd carrier-borne Ju 87 E-0	—	—
Ju 87 V21	D-INRE	87 0536	1st prototype for Ju 87 D-1 fitted with a Jumo 211 J	01.03.41	Unknown
Ju 87 V22	SF+TY	87 0540	Engine and cooling development (Jumo 211 J)	01.03.41	Unknown
Ju 87 V23	PB+UB	87 0542	Prototype series a/c of future Ju 87 D-1 series	01.03.41	Unknown
Ju 87 V24	Unknown	87 0544	Proposed carrier a/c then used to become a Ju 87 R-1	01.03.41	Unknown
Ju 87 V25	BK+EF	87 0545	Experiment series a/c for tropical use	01.03.41	Unknown
Ju 87 V26 to Ju 87 V29	—	—	Proposed use unknown	—	—
Ju 87 V30	Unknown	2296	Prototype for future Ju 87 D-5 ground-attack a/c	01.03.41	Unknown
Ju 87 V31 to Ju 87 V42	—	—	No information available	—	—
Ju 87 V43	BI+VZ	Unknown	Purpose unknown, used at Junkers Dessau facility	Early 1943	Unknown

Ju 88

The Ju 88 won the Schnellbomber (fast bomber) competition begun in August 1935, defeating Messerschmitt's Bf 162, the Hs 127 and Heinkel's He 119.

Initial tests were at Dessau, followed by a tactical evaluation by Luftwaffe pilots. More than five prototypes and many modified series aircraft were tested at the various E-Stellen. Many different engines and types of electronic equipment and weapons were evaluated on Ju 88s until early 1945.

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Ju 88 V1	D-AQEN	4941	1st prototype, later used for Ju 288 development	21.12.36	Scrapped
Ju 88 V2	D-ASAZ VA+EG	4942	Tests with DB 600 engines later Ju 288 development	10.04.37	Mentioned in June 1940
Ju 88 V3	D-AREN	4943	Jumo 211 and bombsight BZA trials	13.09.37	Destroyed on 24.02.38
Ju 88 V4	D-ASYI	4944	Tested with BMW 801 radials instead of Jumo 211 As	02.02.38	Used for training from 1942
Ju 88 V5	D-ATYU	4945	Lengthened canopy, trials with diving brakes	13.04.38	Damaged on 10.05.44
Ju 88 V6	D-AQKD	4946	Prototype with a longer fuselage, first Ju 88 A-0 a/c	18.06.38	Crashed on 13.04.44
Ju 88 V7	D-ARHC GU+AE	4947	Trials with advanced airscrews, later a record plane	27.09.38	Last recorded flight in June 1942
Ju 88 V8	D-ASCY DG+BF	4948	1st prototype of Ju 88 A-1, later became a Ballonzerstörer (balloon destroyer)	03.10.38	Last recorded flight in May 1942
Ju 88 V9	D-ADCN	88 0001	1st advanced series prototype (A-1) with new equipment	31.10.38	Damaged on 27.05.42

The first Ju 88, V1 D-AQEN, was constructed to be a fast bomber and featured a

different
cockpit fairing to Ju 88 V2 and the following prototypes. (Junkers)

Ju 88 V2 was handed over to a Luftwaffe training unit after its flight development
had ended. The forward cockpit fairing resembled that of V1, but the main cabin had a new shape. ***(Griehl)***

A few Ju 88 prototypes were used for the evaluation of other bombers. Thus Ju

88 V5
received the forward cabin structure of an early Ju 288. (Kössler)

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Ju 88 V10	D-AMHG	88 0002	2nd advanced series prototype (A-1) larger wings	03.02.39	Unknown
Ju 88 V11	D-AGDX GZ+AF	88 0003	3rd advanced series prototype with A-1 equipment	Mid-1939	Unknown
Ju 88 V12	Unknown	88 0004	First installation of a triaxial control system	Mid-1939	Unknown
Ju 88 V13	GU+AH	88 0005	5th series prototype	End 1939	Last recorded flight 1940

Ju 88 V8 (D-ASCY) was a prototype of the small A-0 series which developed into the A-1,
by then equipped with a three-blade airscrew. ***(Wachtl)***

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Ju 88 V14	D-APSF	88 0006	Prototype equipped with BMW 801 D in 1943	Early 1940	Last recorded flight in 1940
Ju 88 V15	D-ATKQ DD+LA	88 0007	Engine development at BMW Munich, later Ju 88 Z15	Early 1940	Unknown
Ju 88 V16	D-ACAR BB+AD	88 0008	Engine development with Jumo 211 B, later Ju 88 A-3	Early 1940	Last recorded flight Mar. 1943
Ju 88 V17	D-AEAG DI+MW	88 0017	De-icing trials, two Jumo 211 B, later BMW 801 Ds	Early 1940	Last mentioned in Apr. 1944
Ju 88 V18	D-ACAP	88 0021	Engine development trials (A-5 frame), Jumo 213 A-0	Early 1940	Last mentioned in Mar. 1943
Ju 88 V19	Unknown	88 0373	Destroyer development, also with forward-firing guns, Z19	Early 1940	Unknown
Ju 88 V20	D-ACBN	88 3058	Prototype equipped with flame-dampers (Ju 88 A-4)	Unknown	Unknown
Ju 88 V21	D-ACBO ND+BM	88 3113	1st prototype for Ju 88 fitted with Jumo 213 in 1943	03.11.40	Last recorded flight in Nov. 1941
Ju 88 V22	D-ACPB ND+CF	88 3132	2nd prototype for Ju 88 A-4, became a Ju 188 E-1, fitted with two BMW 801 ML-2	Unknown	Last known on 6.10.42

Ju 88 V19, also called Z19, was evaluated as a powerful destroyer aircraft, defined as having a fixed armament comprising four or more machine guns and

cannon. (Junkers via Nowarra)

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Ju 88 V23	D-ARBY	88 2001	1st prototype for Ju 88 B-0, later Jumo 213 installed	19.06.40	Unknown
Ju 88 V24	D-ASGQ NK+AP K9+QH	88 0024	Evaluated with Jumo 211 B, used by Versuchsstelle für Höhenflüge (VSt.f.H.) Experimental Centre for High-Altitude Flight	30.07.40	Delivered to VSt.f.H. on 14.04.41
Ju 88 V25	NH+AK	88 0025	Evaluated with Jumo 211 B, later fitted with BMW 801	26.09.40	Delivered to VSt.f.H. on 14.04.41
Ju 88 V26	Unknown K9+XH	88 0026	General evaluation of Ju 88 B-2 and B wings development	Dec. 1940	Destroyed in May 1942
Ju 88 V27	D-AWLN NJ+TC	88 0027	1st prototype for Ju 88 E-0 from 27.12.1941, BMW 801s, later became a Ju 188 E-1 (WerkNr. 10003)	31.01.41	Destroyed on 9.08.44
Ju 88 V28	GB+ND T9+DH	88 0028	Short canopy and Jumo 213 engines, B-2, became a Ju 88 E-0	June 1941	Unknown
Ju 88 V30 Ju 88 V30/1	D-AFAG GB+NN K9+TH	88 0030	Used by VSt.f.H., built as a Ju 88 E-0 with BMW 801 ML-2	27.12.41	Destroyed on 1.09.42
Ju 88 V31	GB+NG	88 0031	Tested with Hirth super-charger, later at Dessau	Mid-1941	Last mentioned 07.09.42
Ju 88 V32	Unknown	88 0032	Prototype for Ju 88 B-2 with a short canopy	17.11.41	Unknown
Ju 88 V33	D-AEDG ND+DA	88 3153	Ju 88 A-4 prototype used for Jumo 211 J testing	16.04.41	Recorded as having last flown in mid-1941

Ju 88 V30/1 belonged to a batch of aircraft which were chosen to get a so-called ***Kampfkopf*** *('Battlehead'), a fully glazed cabin structure with an improved defensive armament similar to that proposed for the Ju 85. (Junkers via Herwig)*

One of the last prototypes used for offensive duties, Ju 88 V54 had a 7.5cm anti-tank gun
which could be used against all kinds of enemy armour. (Junkers via Aders)

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Ju 88 V34	Unknown	88 0387	Ju 88 A-4 prototype used for Jumo 211 J testing	Mar. 1941	Unknown
Ju 88 V35	Unknown	88 0395	Ju 88 A-4 prototype, with Jumo 211 J later Jumo 213	Mar. 1941	Unknown
Ju 88 V36	Unknown	88 3127	Ju 88 A-4 used for engine tests with Jumo 211 J	Mid-1941	Unknown
Ju 88 V37	Unknown	88 5026	Ju 88 A-4 used for engine tests with Jumo 211 J	Mid-1941	Unknown
Ju 88 V38–V40	—	—	No information available, if used as prototype	—	—
Ju 88 V41	D-AFBF DE+VD	88 1004	Prototype with lengthened wings, later became a Ju 188 with BMW 801 ML-2 trop.	Unknown	Damaged on 1.07.44
Ju 88 V42	D-AFBG DH+NE	88 1042	First prototype Ju 88 A-11 (a Ju 88 A-4/trop. a/c)	Nov. 1941	Unknown
Ju 88 V43	D-AFBK RF+IQ	88 1530	Rebuilt Ju 88 A-4 or Ju 88 E-1 fitted with BMW 801 B-2	Apr. 1942	Unknown
Ju 88 V44	NF+KQ	Unknown	Prototype Ju 88 E-1 a/c wheel motor and BMW 801 ML-2 trop. evaluation	Unknown	Laid up 10.08.44

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Ju 88 V45	VK+BW	Unknown	Prototype with Jumo 213 Einheitstriebwerk B (Standard Powerplant B)	Mid-1943	Unknown
Ju 88 V46	Unknown	Unknown	Aerial torpedo installation by E-Stelle Tarnewitz	Unknown	Unknown
Ju 88 V47	Unknown	88 1687	Prototype Sonderkampf-aufklärer (special bomber/ recce a/c), a rebuilt Ju 88 A-4	Oct. 1941	Unknown
Ju 88 V48	—	—	No information available	—	—
Ju 88 V49	Unknown	88 1485	Engine and airscrew tests undertaken by BMW Munich	End 1941	Unknown
Ju 88 V50	RD+YT	88 1220	Werkserprobungsmaschine (factory trials machine) used by Junkers (Ju 88 A-4)	Unknown	Unknown
Ju 88 V51	D-ADBY CO+OG	88 0066	Werkserprobungsmaschine used by BMW with 801 ML-2	Early 1942	Unknown
Ju 88 V52	Unknown	88 2047	No details available	Unknown	Unknown
Ju 88 V53	Unknown	88 1182	1st prototype of Ju 88 with MK 111 cannon	Mar. 1943	Unknown
Ju 88 V54	Unknown	88 1881	1st prototype of Ju 88 P-1 fitted with BK 7.5 cm cannon	Mar. 1943	Unknown
Ju 88 V55	VL+KY	140377	1st prototype of Ju 88 S-1 with BMW 801 and GM 1	28.12.42	Unknown

Ju 88 G V58 was one of the heaviest day-and night-fighters. (Junkers via Petrick)

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Ju 88 V56	—	—	Designated Ju 88 S-1 as prototype	—	—
Ju 88 V57	Unknown	140452	1st prototype of Ju 88 P-2 fitted with KWK 39 cannon	Dec. 1942	Parked on 13.03.45
Ju 88 V58	GI+DW	700001	1st prototype of Ju 88 G-1 proposed as night-fighter	24.06.43	Destroyed on 16.08.44
Ju 88 V59	DP+ZA	700002	2nd prototype of Ju 88 G-2, proposed as Tagzerstörer (heavy day fighter)	28.06.43	Unknown
Ju 88 V60	SL+PC	140561	1st prototype of Ju 88 A-15 with a new bomb compartment	Unknown	Parked in Mar. 1945
Ju 88 V61	DF+EV	160051	1st prototype of Ju 88 E-2, rebuilt Ju 88 A-4	Aug.1942	Unknown
Ju 88 V62	DF+EW	Unknown	1st prototype of Ju 88 E-3, rebuilt Ju 88 A-4	10.04.42	Destroyed on 15.10.42
Ju 88 V63	CE+XA	140699	2nd prototype of Ju 88 E-2 fitted with HD 151 barbette	June 1942	see Ju 188
Ju 88 V64	NJ+TJ	Unknown	Purpose unknown, used at Dessau, later at Tarnewitz	Mid-1942	Unknown
Ju 88 V65	—	—	See Ju 188 prototypes	—	—
Ju 88 V66	—	—	No information available	—	—
Ju 88 V67	Unknown	Unknown	1st flying test-bed for Jumo 004 B-1 jet engines	Mid-1943	Unknown
Ju 88 V68 to Ju 88 V71	—	—	No information available	—	—
Ju 88 V72	Unknown	Unknown	2nd flying test-bed for Jumo Jumo 004 B-1 jet engines	Mid-1943	Unknown
Ju 88 V73 to Ju 88 V77	—	—	No information available	—	—
Ju 88 V78	PJ+NR	Unknown	Engine prototype fitted with Jumo 213, tested at Rechlin	End 1943	Unknown
Ju 88 V79 to Ju 88 V88	—	—	No information available	—	—
Ju 88 V89	RG+RP	430820	1st prototype of Ju 88 H-1	02.11.43	Unknown
Ju 88 V90	Unknown	Unknown	2nd prototype of Ju 88 H-1	End 1943	Unknown
Ju 88 V91 and Ju 88 V92	—	—	No information available	—	—
Ju 88 V93	NJ+BE	8722	1st prototype of Ju 88 S-5 equipped with TK 11 super-chargers	01.11.43	Unknown
Ju 88 V94	KN+PL	5790	2nd prototype of Ju 88 S-5	06.04.44	Destroyed 16.08.44

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Ju 88 V95	VK+PR	550069	Prototype with automatic KWK 39 cannon	Unknown	At Dessau in Nov. 1943
Ju 88 V96 to Ju 88 V88	—	—	No information available	—	—
Ju 88 V99	Unknown	550077	Prototype tested with Gnome-Rhône by Lufthansa	Mid-1943	At Dessau in Mar. 1945
Ju 88 V100 to Ju 88 V103	—	—	Early designation for Ju 88 B prototypes Ju 88 V23 to V25	—	—
Ju 88 V104	Unknown	710612	3rd prototype of Ju 88 fitted with four MK 108	End 1943	—
Ju 88 V105	Unknown	710523	1st prototype of Ju 88 G-3 equipped with DB 603	End 1943	At Dessau end of 1944
Ju 88 V106	Unknown	Unknown	1st prototype of Einheitstyp ('standard type') Ju 88 A-4/G-2	End 1943	Unknown
Ju 88 V107	Unknown	710580	No information available	—	—
Ju 88 V108	Unknown	620151	Prototype of Ju 88 G-6 with Jumo 213 A	Late 1944	Unknown
Ju 88 V109	Unknown	620153	Prototype of Ju 88 G-6 with MW 50 system and Jumo 213 engines	Late 1944	At Dessau in Mar. 1945
Ju 88 V110	Unknown	620152	No information available	Unknown	Unknown
Ju 88 V111	Unknown	Unknown	Prototype of Ju 88 G-6 used by Junkers facility	End 1944	At Dessau early 1945
Ju 88 V112	Unknown	621045	1st prototype of Ju 88 G-7 fitted with Jumo 213 D-0	End 1944	Destroyed by air raid on 7.03.45
Ju 88 V113	Unknown	621044	2nd prototype of Ju 88 G-7 fitted with Jumo 213 D-0	Early 1945	Destroyed by air raid on 07.03.45
Ju 88 V114	Unknown	621046	A/c under construction, Jumo 213 D-0 missing, 1945	—	Scrapped in 1945
Ju 88 V115	Unknown	621048	A/c under construction, Jumo 213 D-0 missing, 1945	—	Scrapped in 1945

Ju 89

Two contenders in the Großbomber competition were finally built, the Do 19 and Ju 89. The competition was begun in October 1933, but the RLM lost interest in large four-engine combat aircraft because of supply difficulties, which became obvious in late 1938. Therefore the Junkers company was only allowed to develop the type as a civil airliner to be produced in limited numbers.

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Ju 89 V1	D-AFIT	4911	1st prototype of a heavy bomber evaluation	12.04.37	Scrapped in May 1939
Ju 89 V2	D-ALAT	4912	2nd prototype of a heavy bomber evaluation	12.08.37	Scrapped by 1939
Ju 89 V3	—	4913	A/c renamed as Ju 90 V1	—	See Ju 90

The fate of the Ju 89 was similar to that of the other long-range bombers. Ju 89 V2 was
equipped with coolers positioned under the four in-line engines. (Junkers via Nowarra)

Ju 90

The Ju 90 DLH Verkehrsflugzeug, an airliner to be used by Deutsche Lufthansa, was ordered in August 1933. It was powered by four DB 600s. After tests at Junkers it was handed over to Lufthansa to start a long-term test programme with civilian pilots. Later this transport aircraft was fitted with four BMW 132 M radials and some examples were used to test remote-controlled defensive guns at E-Stelle Travemünde.

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Ju 90 V1	D-AALU	4913	1st prototype of a long-range airliner	28.08.37	Crashed on 07.02.38
Ju 90 V2	D-AIVI	4914	2nd prototype used for long-term testing by Lufthansa	02.12.37	Crashed on 26.11.38

*Ju 90 V1, named **Der Große Dessauer**, was constructed from components of the original*
Ju 89 V3 mated to an entirely new and redesigned fuselage. (Kössler)

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Ju 90 V3	D-AURE GF+GD	4915	First a/c fitted with four Einheitstriebwerken BMW 132 H/1	23.06.38	Lost during low-level attack on 15.01.44
Ju 90 V4	D-ADLH	4916	Testing larger undercarriage	12.09.38	Scrapped in 1945
Ju 90 V5	D-ANBS KH+XB	4917	Fitted with BMW 132 M radials and VS 5 propeller	05.12.39	Scrapped in 1943
Ju 90 V6	D-AOKD	4918	First a/c with Trapo-Klappe (loading ramp) later became Ju 390 V1	30.07.40	Renamed on 01.04.42

Ju 90 V8, as the forerunner of the later well-armed Ju 290 transport aircraft, would
subsequently be equipped with a ventral weapons bay with two guns, a gun turret
aft of the cockpit and a tail gun position. (Junkers via Lange)

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Ju 90 V7	D-APFH GF+GH	4919	Towing trials with Me 321 transport glider	06.09.41	Burnt on 05.10.44
Ju 90 V8	D-AQJA DJ+YE	4920	Installation of defensive armament and a gondola	28.03.42	Scrapped on 19.08.43
Ju 90 V9	—	—	Contract cancelled by RLM	—	—
Ju 90 V10	—	—	Contract cancelled by RLM	—	—
Ju 90 V11	—	90 0011	A/c became Ju 290 V1	—	See Ju 290
Ju 90 V12	GF+GB	90 0001	Weapons installations tested at E-Stelle Tarnewitz	24.02.39	Unknown
Ju 90 V13	—	90 0002	Major parts were used for the construction of Ju 290 V2	—	See Ju 290

Ju 160

The Ju 160, first powered by a Pratt & Whitney Hornet, was later operated by Lufthansa and by the DVL from 1935. The first prototype was tested by Junkers followed by further trials carried out by Lufthansa. Additionally two prototypes and some forty A-0 to D-0 series aircraft were built.

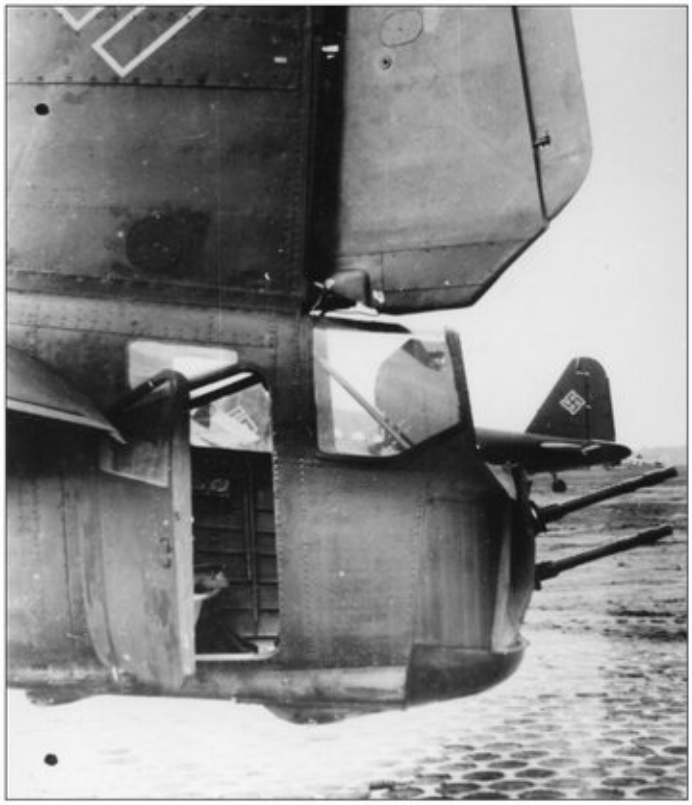
Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Ju 160 V1	D-UNOR	4202	Flight evaluation with one BMW 132 E radial	30.01.34	Unknown
Ju 160 V2	D-UFUX	4203	Military prototype of a light combat aircraft	Oct. 1934	Unknown
Ju 160 V3	D-UMUT	4204	First pre-series aircraft of Ju 160 A-0	Dec. 1934	Unknown

Ju 160 V1 which followed the Ju 60. Three prototypes were constructed. The Ju 160 had an improved wing structure. (Deutsche Lufthansa)

Ju 188

The development of the Ju 188 had begun with the creation of the modified Ju 88 B series which had a larger fully glazed cockpit section than the standard Ju 88 A. Before the first real Ju 188 was built no fewer than eleven former Ju 88 prototype and series aircraft were used to evaluate the improved wing structure, armament and equipment of the new type.

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Ju 88 V22	ND+CF	3132	Ju 88 A-4 with BMW 801 ML-2 engines	Unknown	Unknown
Ju 88 V27	GB+NC	0027	Replacement of Ju 88 V30, BMW 801 ML-2, installation of HL 131 Z/1 and HD 151/2 armament	31.01.41	Unknown
Ju 88 V41	DE+VB	1004	Ju 88 A with BMW 801 MG-2 trop., biaxial control system	Unknown	Unknown
Ju 88 V43	RF+IQ	Unknown	Ju 188 fuselage, equipment tests of Ju 188 E-1, BMW 801 ML-2	Apr. 1941	Unknown



After eleven Ju 88 prototypes had been modified to test the Ju 188's new wings, tail unit, powerplants and armament, only two true Ju 188 prototypes were actually produced. (Junkers via Nowarra)

Ju 188 mock-ups like that of a night-fighter fitted with MG 151/20 cannon and FuG 202 radar were finished but series production was cancelled. (Junkers via Radinger)

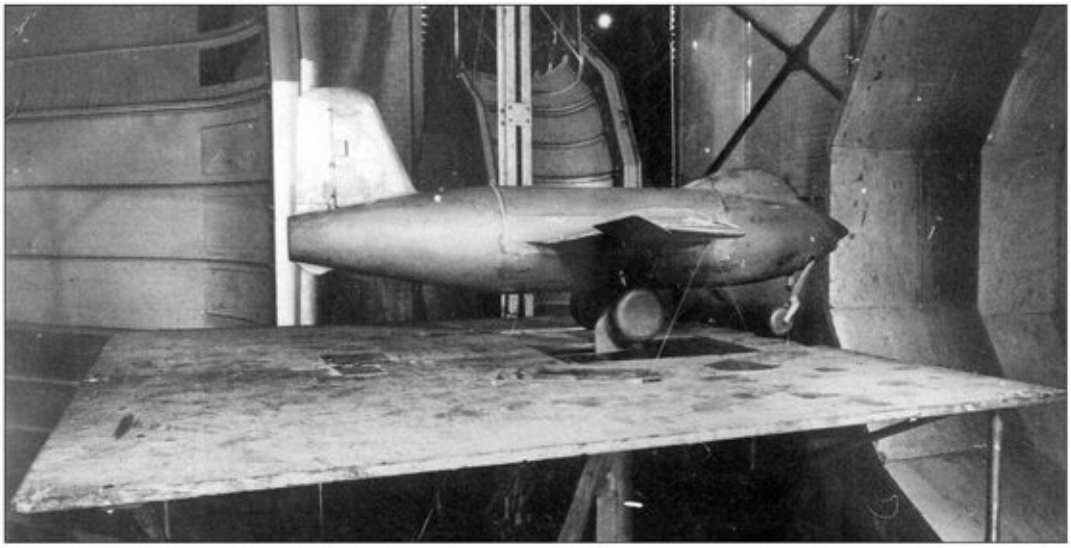
Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Ju 88 V44	NF+KQ	Unknown	Fuselage of Ju 188, BMW 801 MG-2 trop., new ailerons	Unknown	Unknown
Ju 88 V51	D-ADBY CO+OG	88 0066	Used for BMW 801 ML-2 evaluation for Ju 188	Early 1942	Unknown
Ju 88 V61	DF+EV	160051	Airframe of Ju 188, prototype of Ju 88 E-1, BMW 801 ML-2	Aug. 1942	Unknown
Ju 88 V62	DF+EW	160052	Testing of Ju 188 airframe, BMW 801 ML-2 and then de-icing trials	10.04.42	Unknown
Ju 88 V63/1	CE+XA	140699	2nd prototype of Ju 88 E-2 fitted with HD 151 turret	June 1942	At Dessau in Mar. 1945
Ju 88 V64	NJ+TJ	Unknown	Ju 188 fuselage, new ailerons installed	Mid-1942	Unknown
Ju 88 V65	Unknown	Unknown	Fuselage of Ju 188, prototype with HD 151/2 turret	Unknown	Unknown
Ju 188 V1	Unknown	10020	Larger fin section and HD 151/2 turret installed	12.06.43	Unknown

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Ju 188 V2	Unknown	Unknown	Rear defensive HL 131 Z/1 gun position	Aug. 1943	Unknown
Ju 188 V3 to Ju 188 V12	—	—	Designated prototypes, not built	—	—
Ju 188 V401 to Ju 188 V404	—	—	See Ju 488 prototypes	—	—

Ju 248 (ex Me 263)

Because of limited capacity at Messerschmitt, the RLM was forced to hand over the complete development of an improved Me 163, with a retractable undercarriage, to the Junkers company. Because there was a lack of rocket engines, flight evaluation was carried out with a single prototype without an engine, towed by a bomber, in February 1945.

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Ju 248 V1	DV+PA	Unknown	1st unpowered prototype	08.02.45	Destroyed end of Apr. 1945
Ju 248 V2 to Ju 248 V5	—	Unknown	Incomplete in May 1945	—	—



Because Messerschmitt was engaged with the Me 262, development of the Me 263 was
handed over to Junkers. ***(Herwig)***

To replace the Ju 52/3m Junkers was working on a modern civil airliner and military
transport aircraft but production of the Ju 252 was limited. V1 is shown here

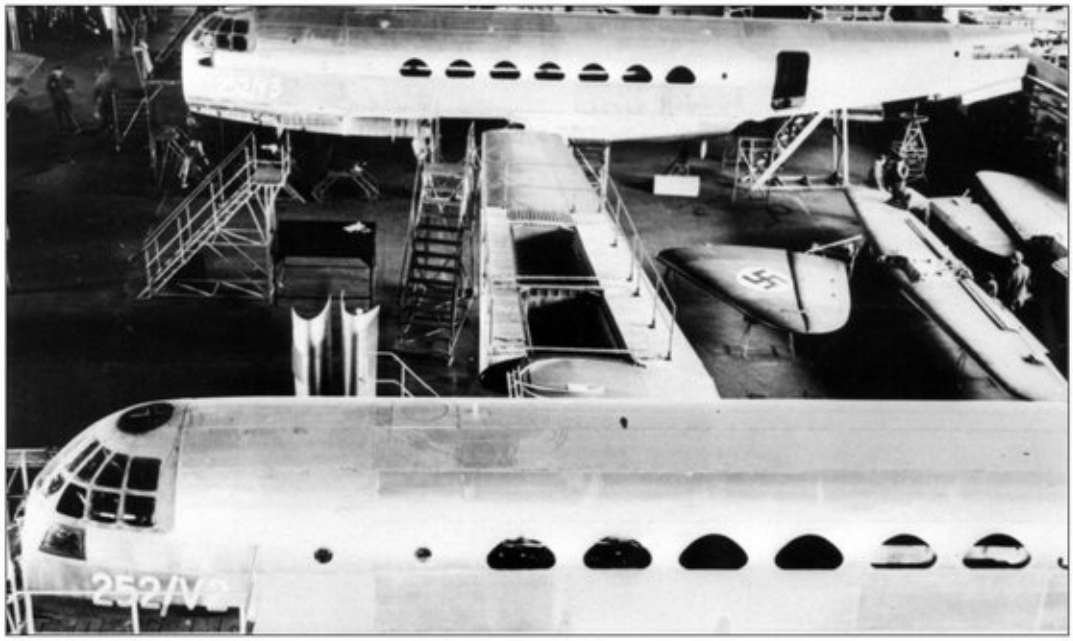
in flight over central Germany. ***(Herwig)***

Ju 252

To replace the slow Ju 52/3m in 1939 the RLM ordered the Junkers company to build a modern airliner which could also be used as a powerful armed military transport aircraft. After the work was interrupted in the first part of the war, successful trials at Dessau followed, but not until mid-1942.

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Ju 252 V1	D-ADCC BH+DB	252 0001	1st prototype, fitted with three Jumo 211 A	05.06.42	Became Ju 352 V0
Ju 252 V2	BH+DV	252 0002	2nd prototype, used for performance trials	01.09.42	Mentioned in Nov. 1943
Ju 252 V3	BH+DD	252 0003	3rd prototype, pre-series prototype (A-0)	12.11.42	Unknown
Ju 252 V4	DF+BP	252 0004	A/c used as Ju 252 A-01 for transport duties	15.02.43	Crash landing on 20.07.43
Ju 252 V5	DF+BQ J4+LH	252 0005	A/c used as Ju 252 A-02 for transport duties	11.12.42	Last noticed on 26.04.43
Ju 262 V6	DF+BR	252 0006	A/c used as Ju 252 A-03 for transport duties	10.02.43	Damaged at Rechlin on 2.06.44

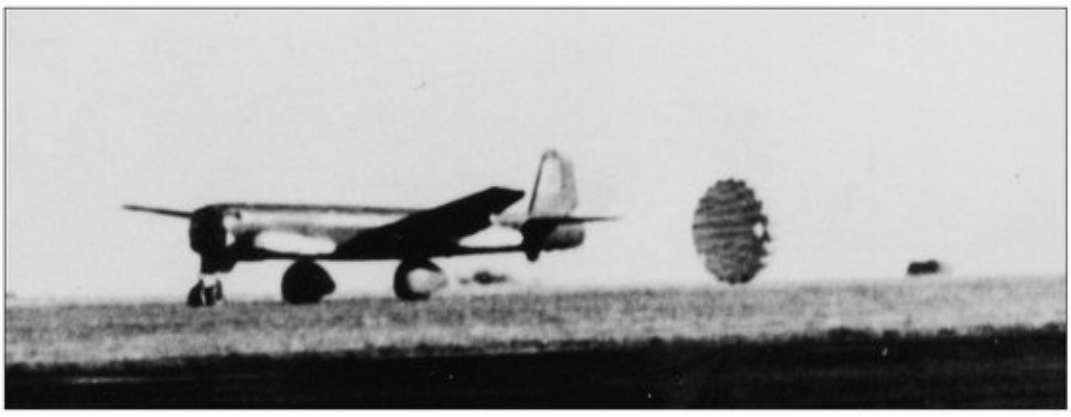
Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Ju 252 V7	DF+BS	252 0007	A/c used as Ju 252 A-04 for transport duties	15.02.43	Mentioned in Nov. 1943
Ju 252 V8	DF+BT T9+SK	252 0008	A/c used as Ju 252 A-05 for transport duties	Mar. 1943	Mentioned in Nov. 1943
Ju 252 V9	DF+BU	252 0009	A/c used as Ju 252 A-06 for transport duties	June 1943	Unknown
Ju 252 V10	DF+BV	252 0010	A/c used as Ju 252 A-07 for transport duties	June 1943	Mentioned in Oct. 1943
Ju 252 V11	DF+BW	252 0011	A/c used as Ju 252 A-08	June 1943	Unknown
Ju 252 V12	DF+DX	252 0012	A/c used as Ju 252 A-09	June 1943	Unknown
Ju 252 V13	DF+BY	252 0013	A/c used as Ju 252 A-010	Sept. 1943	Unknown
Ju 252 V14	DF+BZ	252 0014	A/c used as Ju 252 A-011	Sept. 1943	Unknown
Ju 252 V15	DE+ZY	252 0015	A/c used as Ju 252 A-012	Dec. 1943	Unknown



Close-up view of Ju 252 V2 and V3 under construction. The cost of the new aircraft was
such that the RLM soon ordered Junkers to concentrate on the cheaper Ju 352. (Junkers)

Ju 287

The Ju 287 was the first heavy jet-bomber design produced for the Luftwaffe. It was based on the Ju (EF) 122, of which a lot of wind-tunnel models had been built and tested. The flying mock-up Ju 287 V1 and V2 (also called Ju 288 V201 and 202) followed. For both aircraft parts of He 177 A-3, Ju 388 L-1 and captured B-24 aircraft were used.



The first Ju 287 V1 (RS+RA) during flight evaluation by Flugkapitän Holzbauer. To shorten the landing run a parachute brake was installed. (Holzbauer)

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Ju 287 V1/ (Ju 288 V201)	RS+RA	Unknown	1st prototype used for general flight development with four Jumo 004 B-3	08.08.44	Captured by US forces on 16.04.45 at Brandis
Ju 287 V2/ (Ju 288 V202)	RS+RB	Unknown	2nd prototype fitted with two Jumo 004 B-3 and four BMW 003 A-1	—	Scrapped

During the closing month of the war, both Ju 287s were hidden in a wood near Brandis.
The second prototype, shown, was to be propelled by six jet engines of which four had
been installed in the nacelles beneath the wings. (Zucker)

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Ju 287 V3	—	Unknown	Proposed to be fitted with triple BMW 003 A-1 jets, a/c not completed	—	Under construction early in 1945
Ju 287 V4	—	Unknown	2nd prototype fitted with triple BMW 003 A-1 jets, proposed 1st A-series a/c, not completed	—	Parts scrapped in 1946
Ju 287 V5	—	Unknown	3rd prototype fitted with an FHL 131/Z, rear weapon position, a/c not completed	—	Parts scrapped in 1946
Ju 287 V6	—	Unknown	4th prototype with full military equipment, not completed	—	—
Ju 287 V7 to Ju 287 V20	—	Unknown	Technical and tactical evaluation a/c planned	—	—

Ju 288

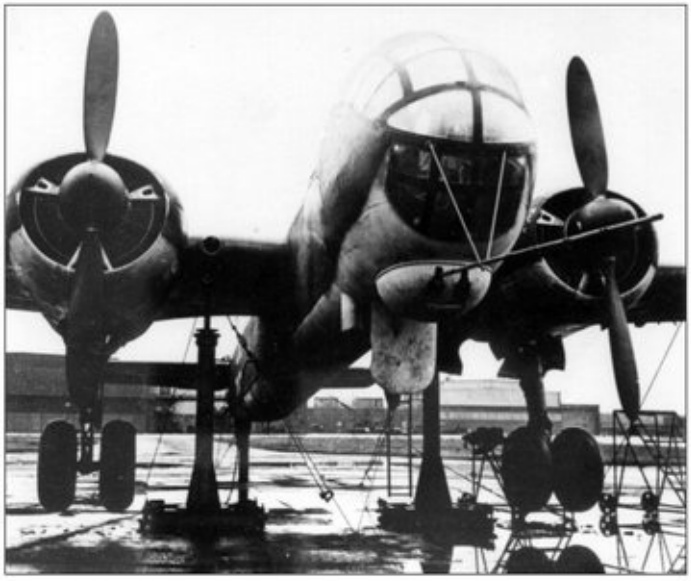
The Ju 288 was a contender in the Bomber B competition, but like the others was handicapped by the lack of powerful engines like the Jumo 222. The design also met severe problems with its remote-controlled defensive armament and required various changes to its airframe. As a result only prototypes were built.

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Ju 288 V1	D-AACS	288 0001	1st Ju 288 prototype used for general flight tests	23.11.40	Burnt on 2.03.41
Ju 288 V2	D-ABWP BG+GR	288 0002	2nd Ju 288 prototype, fitted with revised wings	01.03.41	Scrapped after Dec. 1943
Ju 288 V3	D-ACTF BG+GS	288 0003	General flight development and evaluation of weapon positions and armament	18.04.41	Scrapped during summer 1944
Ju 288 V4	D-ADVR BG+GT	288 0004	Shallow glide flight tests and weapons positions	17.05.41	Last mentioned Nov. 1943 at Tarnewitz
Ju 288 V5	BG+GU	288 0005	Flight development with two Jumo 222 radial engines	08.10.41	Scrapped Nov.1943
Ju 288 V6	D-AFDN BG+GV	288 0006	Pre-series prototype of Ju 288 A series, Jumo 222	18.01.42	Scrapped during autumn 1943
Ju 288 V7	BG+GW	288 0007	Vibration and performance tests	30.07.42	In action until summer 1943
Ju 288 V8	RD+MU	288 0008	Evaluation of aileron and weapons installation	18.08.42	Last mentioned Nov. 1942
Ju 288 V9	VE+QP	288 0009	Flight development of Ju B series	02.05.42	Used until early 1945 by Jumo

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Ju 288 V10	DF+CP	288 0010	Prototype with a new pressurized cabin	17.11.42	At Dessau in Oct. 1943
Ju 288 V11	D-ANXN DF+CQ	288 0011	Flight development with two DB 606, then two DB 610s	09.07.42	Flown up to about June 1944
Ju 288 V12	—	288 0012	Not completed	—	Scrapped
Ju 288 V13	DF+CS	288 0013	Flight development with DB 606 double engines	04.10.42	Crashed on 16.05.43
Ju 288 V14	DF+CT	288 0014	Evaluation of equipment of Ju 288 B series	05.11.42	Flown until summer 1942
Ju 288 V15 to Ju 288 V20	—	—	Proposed a/c of Ju 288 C series	—	—
Ju 288 V101	BG+GX	288 0101	Flight development with DB 606 engines	30.10.42	Flown until 18.12.43
Ju 288 V102	BG+GY	288 0102	Flight development with DB 610 engines and full armament	31.01.43	Flown until 15.11.43

Numerous prototypes of the Ju 288 were produced. Here engineers celebrate the 100th flight of Ju 288 V3 in one of the Junker hangars at Dessau. ***(Junkers via Herwig)***

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Ju 288 V103	DE+ZZ	288 0103	Pre-series a/c of Ju 288 C-1 without pressurized cabin	27.07.43	Flown until 05.11.43
Ju 288 V104	DH+WY	288 0104	General flight development of Ju 288 C-1 series	08.11.43	Flown until 02.03.44
Ju 288 V105	Unknown	288 0105	Possibly a/c not completed	—	Scrapped
Ju 288 V106	BS+CA	310151	Flight development with DB 610 engines and improved ailerons	22.04.43	Last mentioned 18.10.43
Ju 288 V107	BS+CB	310152	Evaluation of undercarriage	20.06.43	Flown until 04.12.43
Ju 288 V108	BS+CC	310153	Evaluation of weapons	09.10.43	Scrapped Jan. 1944



One of the last Ju 288 experimental aircraft, Ju 288 V107 (BS+CB), was flown until late 1943 and used for testing the retractable undercarriage. (Junkers)

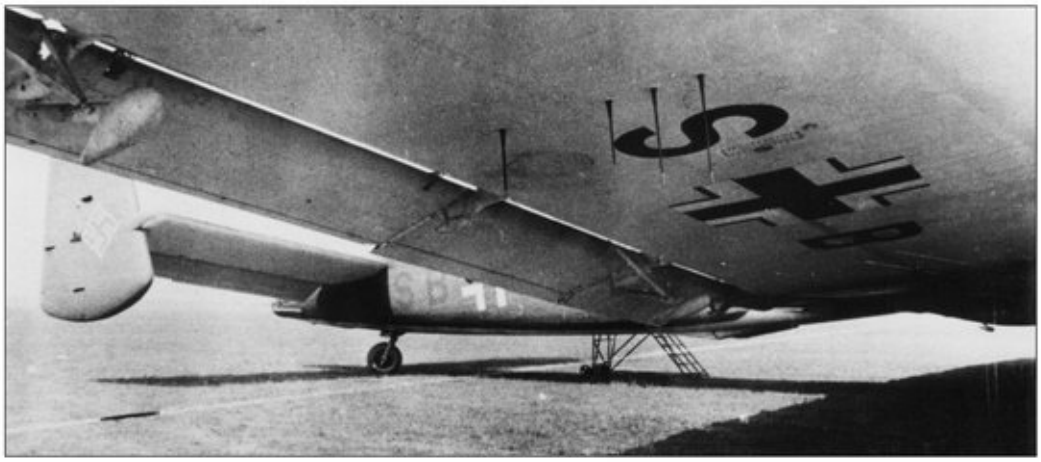
Ju 290

The Ju 290 heavy transport was the next step after the production of the Ju 90 and was tested at Dessau. The first Ju 290 prototype was followed by seven more up to 1943. Only Ju 290 V7 of a proposed B series was built and plans for Ju 290 C-1 to E-1 versions remained incomplete at the end of the war.

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Ju 290 V1	BD+TX	29000001	General flight development of a Ju 90 a/c finished as Ju 290 pre-series prototype	16.07.42	Crashed on 13.01.43
Ju 290 V2	CE+YZ	110151	1st Ju 290 A-1 prototype as an unarmed transport a/c	07.12.42	Unknown

Ju 290 V1, the former Ju 90 V11, was flown at Dessau during the summer of 1942.
The new central weapon bulge can be seen under the cockpit. (Junkers)

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Ju 290 V3	SB+QB	110152	2nd Ju 290 A-1 prototype used for flight development	16.10.42	Crashed on 07.04.43
Ju 290 V4	SB+QC	110153	3rd Ju 290 A-1 prototype used for general and equipment development	13.02.43	Destroyed on 05.02.44
Ju 290 V5	SB+QG	110157	1st Ju 290 A-2 prototype used for defensive armament trials	29.05.43	Scrapped in 1949
Ju 290 V6	KR+LA	110170	1st Ju 290 A-5 prototype improved wing structure	Nov. 1943	Destroyed on 10.04.45



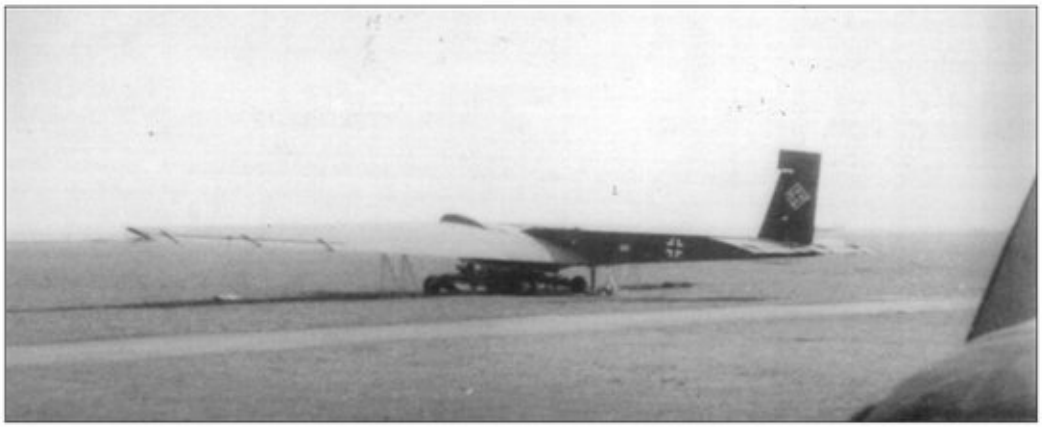
Ju 290 V3 (SB+QB) was equipped with an FuG 216 Neptun R rear-warning system, whose antennae were placed in the starboard wing. (Junkers)

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Ju 290 V7	PI+PS	110165	1st Ju 290 A-4, experimental heavy armament fit	08.09.43	Scrapped in USA in 1948
Ju 290 V8	KR+LO	110184	1st Ju 290 A-7 prototype became first prototype for Ju 290 B series	10.05.44	Unknown

Ju 322 Mammut

The huge Ju 322 glider transport with a wingspan of 64.8 m was too large to be towed by a Ju 90 or other heavy towing aircraft in action. The first prototype was tested at the Junkers works airfield near Merseburg. Because of the availability of the Me 321 the development was terminated after a second test flight failed.

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Ju 322 V1	None	322 0001	1st prototype glider used for flight development	06.03.41	Scrapped mid-1941
Ju 322 V2	None	322 0002	2nd prototype, not completed	—	Scrapped mid-1941



The Ju 322 Mammut, an ultra-heavy transport glider, was only flown briefly before it was scrapped during the summer of 1941. (Lommel)

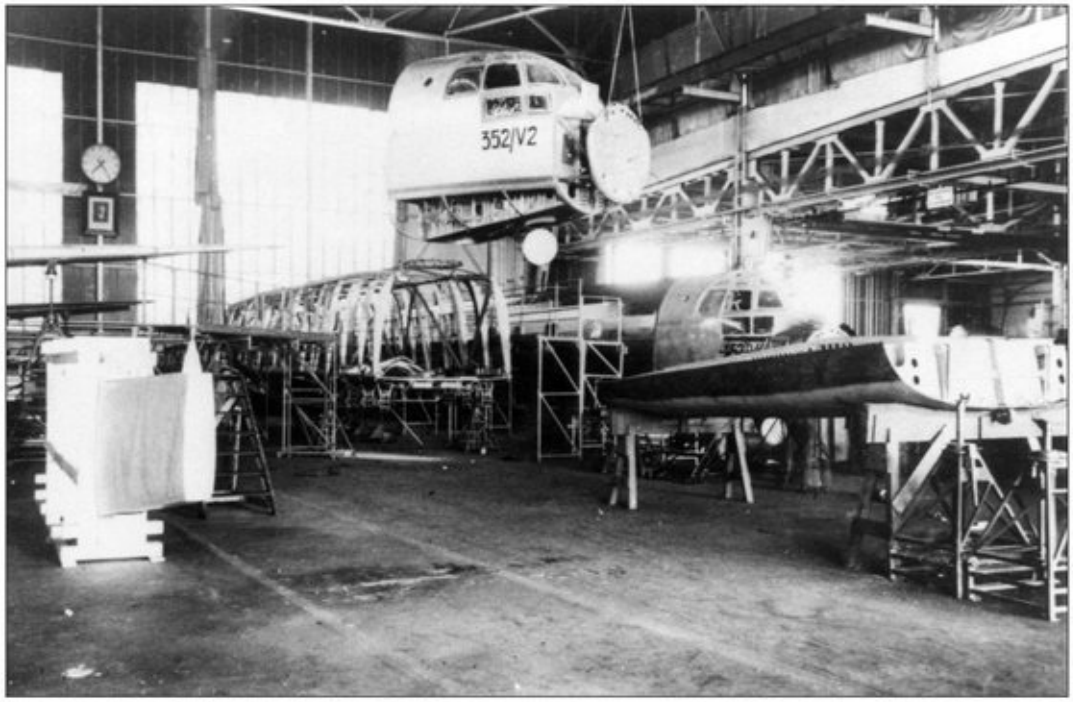
Ju 352

This last three-engine Junkers design of a military transport aircraft suffered from Germany's lack of light metal alloys and reverted to mixed wood and steel construction. Flight development took place at Dessau and Fritzlar, where the specification of Ju 352 pre-series aircraft was settled. One or more examples may have been fitted with an additional MW 50 (water – methanol injection) system at Rechlin to increase engine power.

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Ju 352 V0	BH+DB	252 0001	1st prototype, based on Ju 252 V1/1 prototype fitted with three Bramo 323 TA	18.03.43	Crashed on 11.09.44
Ju 352 V1	CH+JA	100001	2nd prototype, with three Bramo 323 R-2 engines flown as Ju 352 A-01	18.08.43	Flown in Apr. 1944
Ju 352 V2	CH+JB	100002	3rd prototype flown as Ju 352 A-02	08.11.43	Flown at Rechlin on 29.06.44
Ju 352 V3	CH+JC	100003	Used as transport a/c, A-03, tested with exhaust system	Dec. 1943	Used early in 1944
Ju 352 V4	CH+JD	100004	Used as transport a/c, A-04, equipped as a Ju 352 A-1	Jan. 1944	Unknown
Ju 352 V5	CH+JE	100005	Used as transport a/c, A-05, series prototype for Ju 352 A-2	Jan. 1944	Destroyed on 15.04.44
Ju 352 V6	CH+JF	100006	Used as transport a/c, A-06, 200 hours test	Jan. 1944	Mentioned on 24.04.44
Ju 352 V7	CH+JG	100007	Used as transport a/c, A-07	Feb. 1944	Flown at Rechlin on 7.06.44
Ju 352 V8	CH+JH	100008	Used as transport a/c, A-09	Feb. 1944	Flown at Rechlin on 27.05.44
Ju 352 V9	CH+JI	100009	Planned as transport a/c, A-09	Mar. 1944	Unknown
Ju 352 V10	KT+VJ	100010	Used as transport a/c, A-010	Mar. 1944	Scrapped mid-1946
Ju 352 V11	CH+JK	100011	Used as transport a/c	Mar. 1944	Destroyed on 16.08.44

Ju 352 V0 (BH+DB) was based on Ju 252 V1/1 and entered testing in March 1943. (Schäfer)

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Ju 352 V12	CH+JL	100012	Used as transport a/c	Apr. 1944	Unknown
Ju 352 V13	CH+JM	100013	Used as transport a/c	Apr. 1944	Flown on 17.06.44
Ju 352 V14	CH+JN	100014	No information available	Unknown	Unknown
Ju 352 V15	CH+JO	100015	Engine development a/c	May 1944	Scrapped early 1946
Ju 352 V16	CH+JP	100016	Used as transport a/c	May 1944	Flown on 17.06.44
Ju 352 V17	CH+JQ	100017	Used as transport a/c	May 1944	Damaged on 16.08.44
Ju 352 V18	CH+JR	100018	No information available	Unknown	Unknown
Ju 352 V19	CH+JS	100019	Used as transport a/c	June 1944	Damaged on 16.08.44
Ju 352 V20	CH-JT	100020	No information available	Unknown	Unknown



This photo was taken during the assembly of the Ju 352 V2 and V4. It shows the structure of
the rear fuselage without covering and the cockpit section hanging on a crane.
(Herwig)

Ju 388

All early Ju 388 high-altitude prototypes were tested at Dessau. Later variants, fitted with either two Jumo 213s, two DB 603s or two Jumo 222s, were tested at Merseburg. Junkers continued work to solve technical difficulties through 1944, and several tactical trials were undertaken by Luftwaffe crews from E-Stelle

Rechlin and Ekdo 388. Development of the Ju 388 ended in February 1945 when OKL lost interest in the type.

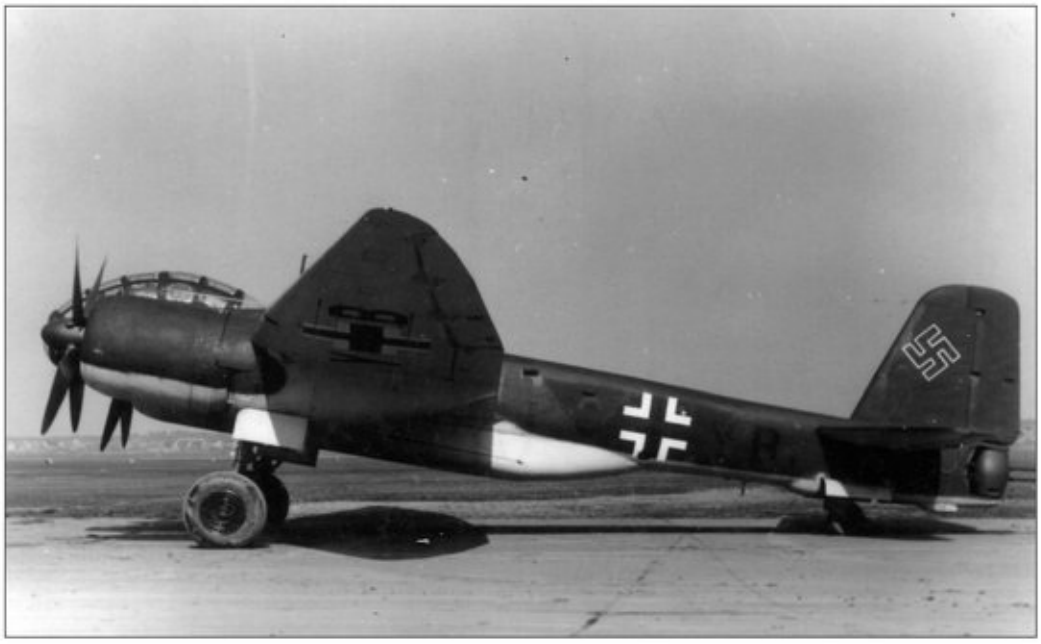
Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Ju 388V1	PE+IA	500001	1st Ju 388 J-1 – prototype since Oct. 1944 to Ekdo 388	26.05.44	Last mentioned on 13.01.45
Ju 388 V2	PE+IB	500002	2nd Ju 388 J-1 with mixed weapon installation in a ventral fairing	29.03.44	Handed over to KdE in Dec. 1944
Ju 388 V3	PE+IC	500003	1st Ju 388 K-1 prototype	02.04.44	Crashed on 9.11.44
Ju 388 V4	PE+ID	500004	2nd Ju 388 K-1–prototype a/c without an rear weapons	16.04.44	Laid up on 20.02.45
Ju 388 V5	PE+IE	500005	1st Ju 388 L-1 prototype used for high-altitude flights	June 1944	Unknown
Ju 388 V6	PE+IF	500006	2nd Ju 388 L-1, used for rear weapon installation	Unknown	Captured in May 1945
Ju 388 V7	PG+YA	300001	General flight development as a first Ju 388 L-0 a/c	Dec. 1943	Laid up in Feb. 1945
Ju 388 V8	PG+YB	300002	Enlarged weapons bay	Mar. 1944	Unknown
Ju 388 V9	KS+TO	230695	Ju 388 K-0 with Jumo 222, without bomb bay	—	Bombed on 25.11.44
Ju 388 V10	Unknown	230721	Ju 388 J-0 with BMW 801 TJ	Dec. 1944	Unknown
Ju 388 V11	Unknown	230727	Ju 388 L-0 prototype with Jumo 222 engines	Unknown	Damaged on 25.11.194
Ju 388 V12	Unknown	230733	Proposed to become a Ju 388 J-1 with BMW 801 TJ	Unknown	Damaged on 25.11.44
Ju 388 V13	Unknown	230737	Proposed to become a Ju 388 K-0 with Jumo 222 A/B	Unknown	Damaged on 25.11.44

Ju 388 V2 was one of the few night-fighter prototypes built. Different guns, such as the MG 151/20, MK 103 or MK 108 could be installed in the weapons bulge. (Handig)

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Ju 388 V14	Unknown	230901	Ju 388 J-1 with Jumo 212 E under construction early 1945	Unknown	Laid up on 20.02.45
Ju 388 V15	Unknown	230903	Proposed to become a Ju 388 J-2 with Jumo 222 A/B	Unknown	Unknown
Ju 388 V18	Unknown	230908	Proposed to become a Ju 388 L-0 with Jumo 222 A/B	Unknown	Unknown
Ju 388 V19	Unknown	230909	Prototype with Jumo 222 A/B engines	Unknown	Unknown
Ju 388 V20	Unknown	230010	Prototype with Jumo 222 A/B engines	Unknown	Unknown
Ju 388 V21	Unknown	Unknown	Prototype with Jumo 213 E engines	Unknown	Laid up on 20.02.45
Ju 388 V22	KS+TK	230691	Ju 388 J-3 prototype for evaluation with Jumo 213	Unknown	Unknown
Ju 388 V23	KS+TQ	230697	Ju 388 K-0 with Dachlaurin and Jumo 213 E engines	Unknown	Destroyed on 25.11.44
Ju 388 V24	Unknown	230725	Proposed as a Ju 388 J-3 but built as Ju 388 K-0	Unknown	Unknown
Ju 388 V25	Unknown	230729	Proposed as a Ju 388 J-2 cancelled on 23.11.44	Unknown	Damaged on 25.11.44
Ju 388 V27	Unknown	230902	Used as prototype with DG 603 U engines	Unknown	Unknown

This early Ju 388 L-0 (DW+YY) formerly flew as the Ju 188 F-1 and was used by Junkers for flight evaluation. (EADS)

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Ju 388 V28	Unknown	230906	Proposed as a prototype a/c with DB 603 U engines	Unknown	Unknown
Ju 388 V29	—	—	No information available	—	—
Ju 388 V30	DW+ZA	300293	Ju 399 L-0 used for BMW 801 TJ trials	Mid-1944	Last mentioned on 30.11.44
Ju 388 V31	DW+ZB	300294	Ju 388 L-0 with BMW 801 TH later fitted with Jumo 213 E	Late1944	Unknown
Ju 388 V32	DW+ZC	300295	Ju 388 L-0 with Jumo 213 E handed over to Vers. OKL	Late 1944	Unknown
Ju 388 V33	DW+ZD	300296	Ju 388 L-0 with BMW 801 TJ handed over to Vers. OKL	Late 1944	Unknown
Ju 388 V34	DW+ZF	300298	Proposed to become a Ju 388 in Merseburg facility	Unknown	Unknown



Ju 388 V8 belonged to the L-0 series and was equipped with a large bay section, in which different cameras and flares could be installed. (EADS)

Ju 390

Junkers only constructed one prototype Ju 390 long-range combat and

reconnaissance aircraft, using the airframe of Ju 90 V6. Later on Ju 390 V1 was lengthened in a Lufthansa facility near Prague. Neither the Ju 390 V2 prototype nor twenty-six projected pre-series or first series aircraft were ever built.

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Ju 390 V1	GH+UK	39000001	1st Ju 390 A-1 prototype a/c, later received a longer rear fuselage section	20.10.43	Destroyed in Apr. 1945
Ju 290 V2	—	39000002	2nd prototype, never completed	—	All parts scrapped late 1944

Ju 390 V1 (GH+UK), the enlarged Ju 90 V6 fitted with a longer fuselage and new wing sections, was the sole prototype of this transport and reconnaissance aircraft. ***(Herwig)***

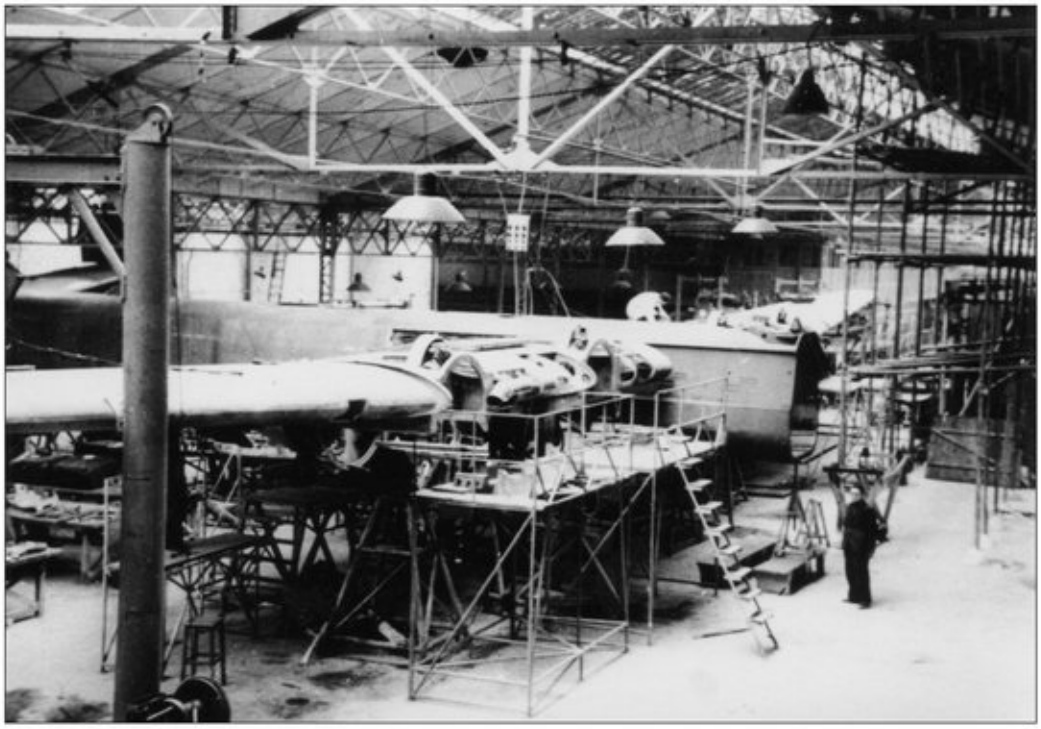
Ju 488

In mid-1944 four prototypes of this high-altitude reconnaissance aircraft were under construction by Latécoère near Toulouse due to the lack of capacity at Dessau. After being set back by an attack by French Resistance forces, the project was terminated a few weeks later when German troops retreated from

France.

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Ju 488 V401	—	230152	Ex Ju 388 K-0, four BMW 801 TJ, entirely unarmed	—	Destroyed on 17.07.44 by French forces
Ju 488 V402	—	230154	Ex Ju 388 K-0, see V401	—	Captured by Allied forces in France

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Ju 488 V403	—	—	1st prototype with armament and Jumo 222 A/B and a longer fuselage	—	A/c under construction in summer 1944
Ju 488 V404	—	—	2nd prototype, with a longer fuselage	—	A/c under construction in summer 1944
Ju 488 V405	—	—	3rd prototype, with a longer fuselage and remote-controlled armament	—	A/c not built
Ju 488 V406	—	—	4th prototype, with a longer fuselage and remote-controlled armament	—	A/c not built

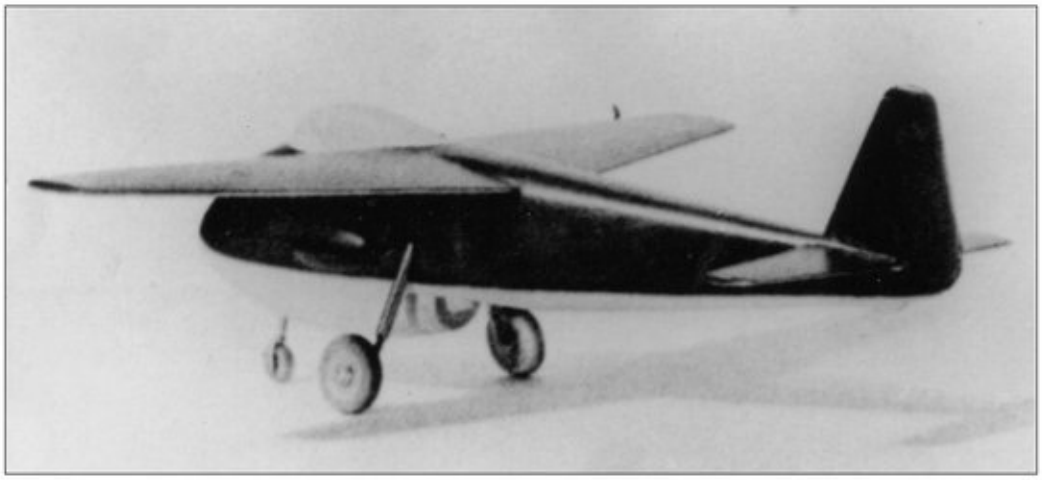


Ju 488 V1 was under construction in France until 17 July 1944, when French

Resistance
forces destroyed the aircraft in its hangar. (Ricco)

Ju EF 123

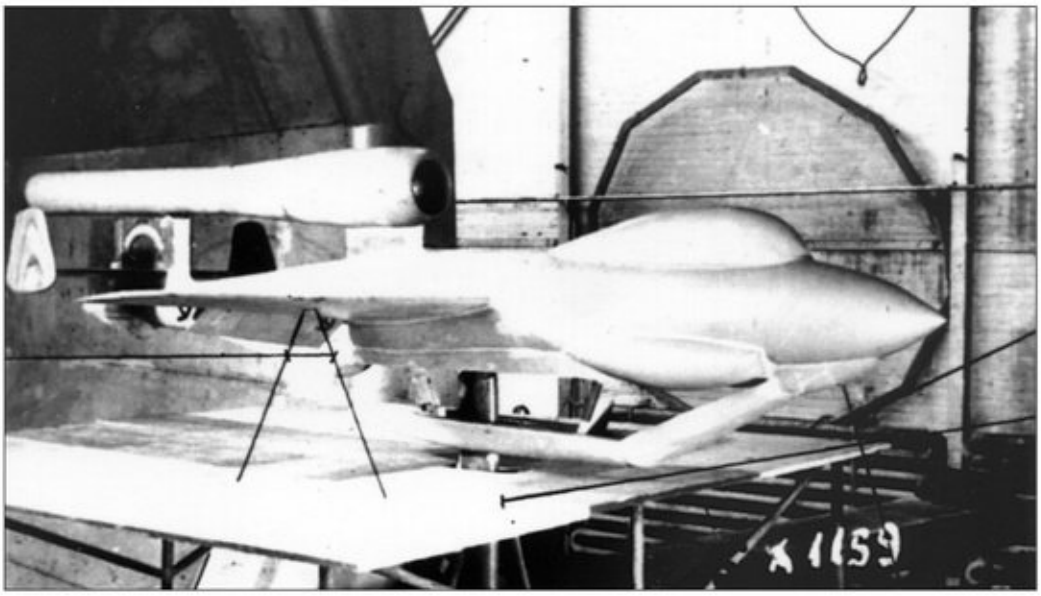
The EF 123, a small high-wing fighter aircraft, was never realised because the Chef TLR had voted for the He 162 midget fighter. When the project was cancelled in September 1944 only a scale model had been built to give an impression of this future day-fighter design.



Only a wooden model of the Ju EF 123 was constructed. The design took part in the
competition for a light fighter aircraft to fight against Allied fighter-bombers.
(Nowarra)

Ju EF 126 (Typ 126)

Work on the EF 126, a small low-wing ground-attack aircraft, was begun in November 1944 at Oranienbaum near Dessau. Work on five prototypes continued under Soviet supervision in Dessau after the war, before they and all the engineers were transported to the USSR.



The development of the Ju EF 126 small low-level attack plane was not finished by the end of the war but work continued under Soviet supervision for a time. (Bukowski)

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Ju EF 126 V1/ Typ 126 V1	None	0001	1st prototype, towed by a Ju 88 G-6	May 1946	Scrapped 1948
Ju EF 126 V2/ Typ 126 V2	None	0002	2nd prototype, for static structure tests	—	Scrapped 1947
Ju EF 126 V3/ Typ 126 V3	None	0003	3rd prototype, used for flight tests	June 1946	Scrapped 1948
Ju EF 126 V4/ Typ 126 V4	None	0004	4th prototype, with a new wing, towed by a Ju 88 G-6	Sept. 1947	Last mentioned in late 1947
Ju EF 126 V5/ Typ 126 V5	None	0005	5th prototype, fitted with Jumo 226 jet engine	16.03.47	Scrapped 1948

Ju EF 131 (Typ 131)

This heavy jet bomber was designated both as Ju 287 V3 and Ju EF 131 V1. It was under construction early in 1945 and work continued after Germany's surrender. The Type 131 finally flew fifteen times in the USSR.

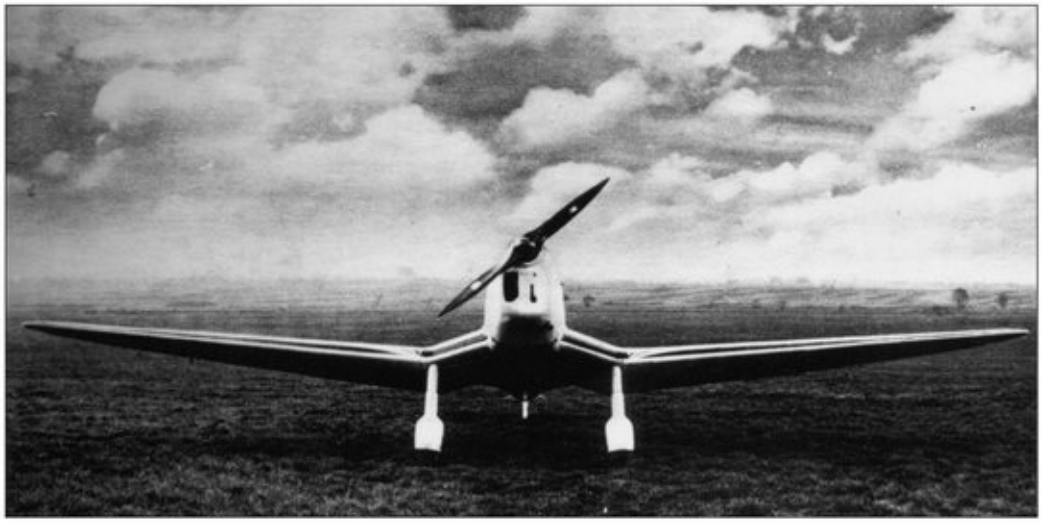
The sole Ju EF 131, also called Type 131 by the Russians, was evaluated in the USSR after the war. (Franzke)

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Ju EF 131 V1	None	0001	1st prototype heavy bomber, completed in 1946	23.05.47	Scrapped late summer 1948
Ju EF 131 V2	None	0002	2nd prototype, completed in Oct. 1946 and taken to USSR	—	Scrapped late summer 1948
Ju EF 131 V3	None	0003	3rd prototype not completed in 1946	—	A/c or parts scrapped late summer 1948

8.16 Klemm

Kl 35

Possibly only two prototypes of the Kl 35 two-seat low-wing trainer were produced at Böblingen near Stuttgart. The first aircraft passed their evaluation there. Following the general evaluation of flight behaviour, tests with were carried out with a glazed cabin section and an HM 504 in-line engine.



The Kl 35 V1 (D-EHXE) prototype was flown with an HM 60 in-line engine. (Dabrowski)

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Kl 35 V1	D-EHXE	959	1st prototype, fitted with an HM 60 engine	Feb. 1935	Crashed on 19.07.35
Kl 35 V2	D-ERQA	960	2nd prototype, used for performance trials	Sept. 1935	Flown at E-Stelle Rechlin in 1935

Kl 36

The Kl 36 was developed to compete in a Europa Rundflug (‘Round Europe Rally’) early in 1934. After tests at Böblingen, a few more aircraftwere finished. The sixth prototype was tested at Rechlin, after a retractable undercarriage was added to the design.

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Kl 36 V1	Unknown	1016	1st prototype fitted with an Sh 14 a engine	1934	Unknown
Kl 36 V2	Unknown	1017	2nd prototype fitted with an Sh 14 a engine	1934	Unknown
Kl 36 V3	D-IFSU	1019	3rd prototype fitted with an Sh 14 a engine	1935	Unknown
Kl 36 V4	Unknown	1031	4th prototype fitted with an Sh 14 a engine	1935	Unknown
Kl 36 V5	D-IOPA	1014	1st prototype fitted with an HM 8 U engine	June 1937	Unknown
Kl 35 V6	D-IUHU	1015	2nd prototype fitted with an HM 8 U engine and retractable undercarriage	30.06.37	Unknown
Kl 36 V7	D-IOTA	1018	3rd prototype, fitted with HM 508 F engine	1937	Unknown

Kl 36 V6 was fitted with an HM 8 U in-line engine and exhibited good flight behaviour.
This prototype was fitted with a fully retractable undercarriage. (Dabrowski)

Kl 105

The small Kl 105 development was designed to become a two-seat training aircraft. It was constructed in wood from 1938 and designed by Hanns Klemm

himself. Only eleven prototypes and pre-series aircraft had been built by 1940.

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Kl 105 V1	D-ERHS	Unknown	Flight development with Zündapp Z 9-092 engine	1938	Unknown
Kl 105 V2	D-EWVD	Unknown	Flight development with Hirth HM 515 engine.	1938	Unknown
Kl 105 V3 to Kl 105 V5	Unknown	Unknown	No details available	—	Unknown
Kl 105 V6	D-EXKL	Unknown	Completed as Kl 107 V1 prototype	—	See Kl 107 V1

Kl 105 V2 was first flown at Böblingen as the second of a total of eleven aircraft. It was possible to fold both wings to reduce the span to 2.30 m. (Dabrowski)

Kl 106

The Kl 106 was intended to replace the Kl 35 which was operated in great quantities by the Luftwaffe as a two-seat training plane. The aircraft, originally designated Kl 35 C, differed from the series Kl 35 in having a simplified wing structure and a more powerful in-line engine. Because of material shortages, other aircraft, like the Fw 44, were produced in larger numbers.

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Kl 106 V1	Unknown	1240	1st prototype, fitted with HM 60 in-line engine	June 1939	Unknown
Kl 106 V2	Unknown	1241	2nd prototype, with revised fuselage structure and HM 504 A-2 engine	Mid-1939	Unknown
Kl 106 V3	D-EBCQ	1242	3rd prototype, with tail structure of Kl 35 D series a/c	Unknown	Unknown
Kl 106 V4	D-EPQG	1243	Flown as pre-series a/c	Unknown	Unknown
Kl 106 V5	D-ECAH	1244	Flown as pre-series a/c	Unknown	Unknown
Kl 106 V6	D-EQMR	1245	Flown as pre-series a/c	Unknown	Unknown
Kl 106 V7	D-EDFK	1246	Flown as pre-series a/c	Unknown	Unknown
Kl 106 V8	D-ERQS	1247	Flown as pre-series a/c	Unknown	Unknown
Kl 106 V9	D-EECD	1248	Flown as pre-series a/c	Unknown	Unknown
Kl 106 V10	D-ESHR	1249	Flown as pre-series a/c	Unknown	Unknown

Kl 106 V3 belonged to a series of ten aircraft fitted with a more powerful HM 504 engine
and featured a revised fuselage structure. (Dabrowski)

Kl 107

The single-engine Kl 107 was first flown by Klemm's senior test pilot, Helmut Kalkstein, at Böblingen. The two-seat training aircraft was a modified Kl 105 design. The crew sat side by side.

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Kl 107 V1	D-EXKL	Unknown	Flight development with HM 500 A-1 engine	May 1939	Crashed on 05.07.39

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Kl 107 V2	D-ERKS	Unknown	2nd prototype	05.06.40	Unknown
Kl 107 V3	D-EBQR	Unknown	Prototype with HM 504 A-2 engine	1940	Unknown
Kl 107 V4	D-EVNV	Unknown	Prototype with HM 504 A-2 engine	1940	Unknown
Kl 107 V5	D-ESKL	Unknown	Prototype with 504 A in-line engine	1940	Unknown
Kl 107 V6	D-EXKL	1655	Prototype with new fin details	1940	Unknown

The modern Kl 107 design, of which the first prototype D-EXKL featured an extensive cockpit fairing, was first flown during late spring 1939. ***(Nowarra)***

Kl 151

Only one Kl 151 training aircraft was ever completed. It was tested by Karl Voy at Klemm's Böblingen works airfield. Ernst Udet had suggested that the wooden Kl 151 might replace the Bf 108 in the liaison role. It was also considered as a

possible modern training aircraft, for introduction from 1943.

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Kl 151 V1	TB+QK	Unknown	1st prototype, fitted with As 10 P in-line engine	10.09.42	Destroyed by bombs at Böblingen on 19.07.44

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Kl 151 V2	None	—	2nd prototype with retractable undercarriage; never finished	—	Scrapped

The final design of Klemm Flugzeugbau, the Kl 151, resembled the Bf 108 but was built of wood to save metal for combat aircraft. Only a few Kl 151s were finally built. (Dabrowski)

8.17 Bayerische Flugzeugwerke/ Messerschmitt

Bf 108 'Taifun'

The well-known low-wing all-metal Bf 108 was developed from a previous design of Bayerische Flugzeugwerke (BFW, later Bf), the M-37a, a four-seat touring aircraft. The Bf 108 was developed as a liaison plane capable of carrying three or four passengers. After initial evaluation at Augsburg, different in-line

and radial engines were installed and test flown. A few pre-series B-0 aircraft were equipped with a wing-folding mechanism.

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Bf 108 (A) V1	D-IBUM	695	1st prototype fitted with an HM 6 U, equipped with wooden wings	13.06.34	Crashed in July 1934

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Bf 108 (A) V2	D-ILIT	696	2nd prototype fitted with an HM 6 U, 1st a/c with metal wing structure	Mid-1934	Unknown
Bf 108 (A) V3	D-IZAN	697	1st prototype fitted with an Sh 14a	1934	Unknown
Bf 108 (A) V4	D-IGAK	698	2nd prototype fitted with an As 17 A engine	1934	Unknown
Bf 108 (A) V5	D-IMUT	699	3rd prototype fitted with an Sh 14a	1934	Unknown
Bf 108 (A) V6	D-IJES	700	4th prototype fitted with Sh 14a, with three-blade airscrew	1934	Unknown
Bf 108 (B) V7	D-IELE	877	1st prototype fitted with an As 10 C-3	Unknown	Unknown

The Bf M 37a, designed by the Bayerische Flugzeugwerke at Augsburg, later became
the Bf 108. Seven prototypes (V2 is shown) and series aircraft of several versions

were produced. ***(MBB)***

Bf 109

In June 1934 Messerschmitt's design bureau took part in a secret competition (for which the Ar 80, Fw 159 and He 112 were also produced) to create a powerful Verfolgungsjäger (VJ: pursuit fighter) or Verfolgungsjagdeinsitzer (single-seat pursuit fighter), a fast, well-armed pursuit plane. Of the ultimate winner, the Bf 109, some 33,675 were produced. After first trials at Messerschmitt's own works airfield, some later variants were evaluated at Rechlin and Tarnewitz. The RLM ordered Messerschmitt to design more powerful versions fitted with heavier in-line engines like the DB 601 N (Bf 109 F) and DB 605 (Bf 109 G). There were also attempts to install a BMW 801 A radial engine or to produce a DB 628 high-altitude power plant for a Spezial-Höhenjäger (Bf 109 H: special high-altitude fighter). Development of this aircraft was finally terminated due to the introduction of more powerful Fw 190 D variants and the Me 262 jet fighter.

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Bf 109 V1	D-IABI	758	1st prototype, flown with Rolls-Royce Kestrel	28.05.35	Last mentioned 13.01.37
Bf 109 V2	D-IILU	759	2nd prototype, fitted with Jumo 210 A in-line engine	12.12.35	Crash landing 01.04.36
Bf 109 V3	D-IOQY	760	3rd prototype, fitted with Jumo 210 B and two MG 17	08.04.36	In Spain Dec. 1936
Bf 109 V4	D-IALY	878	1st pre-series prototype for Bf 109 B-0 series, with Jumo 210 B engine	23.09.36	In Spain after 30.11.36
Bf 109 V5	D-IIGO	879	2nd Bf 109 B-0 with three electrical-firing MG 17	05.11.36	At Tarnewitz in 1938
Bf 109 V6	D-IHHB	880	3rd Bf 109 B-0, fitted with a Jumo 210 D in-line engine	11.11.36	In Spain from Dec. 1936
Bf 109 V7	D-IJHA	881	4th Bf 109 B-0, with Jumo 210 G engine and larger fuel capacity	05.11.36	Unknown

Bf 109 V1 was equipped with a Rolls Royce in-line engine. ***(MBB)***

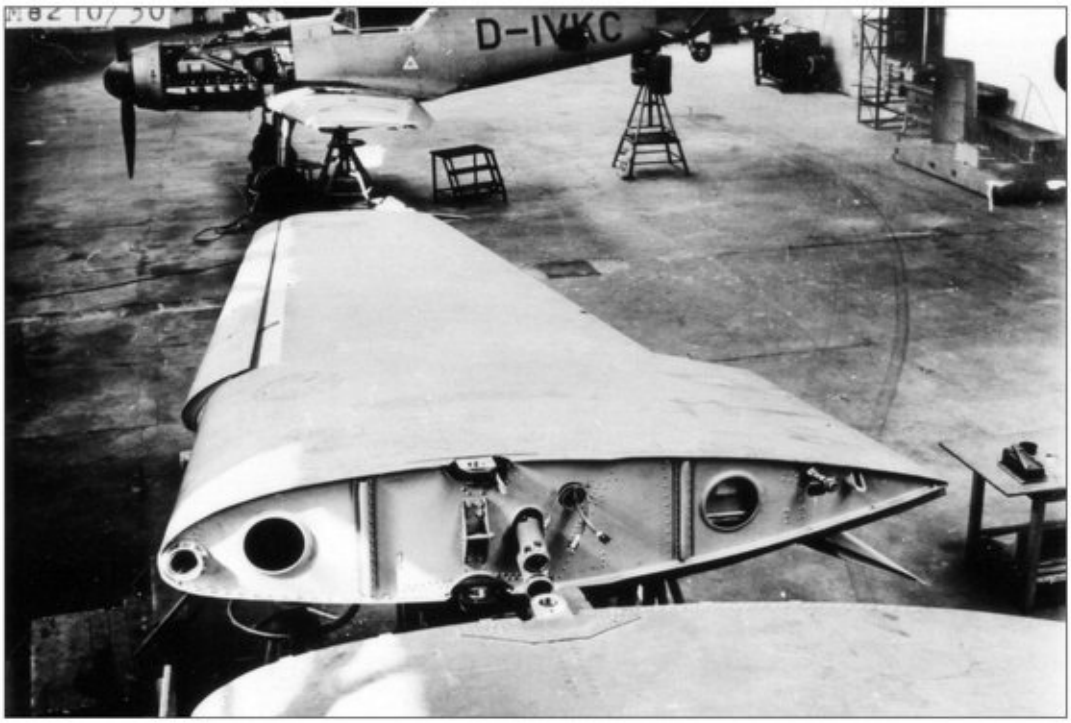
Bf 109 V21 was tested with a Pratt & Whitney Twin Wasp air-cooled radial engine, but the
RLM did not follow up a proposal to evaluate a Bf 109 E with a BMW 801 because that
engine was urgently needed for Do 217 and Fw 190 production. ***(MBB)***

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Bf 109 V8	D-IMQE	882	5th Bf 109 B-0, with Jumo 210 D and two mechanical-firing MG 17 guns, later flown with DB 600 engine	29.12.36	Flown at Rechlin in 1938
Bf 109 V9	D-IPLU	1056	6th Bf 109 B-0, with a Jumo 210 G and two MG 17 in the fuselage	23.07.37	At Rechlin from late 1937
Bf 109 V10	D-IXZA	1010	7th Bf 109 B-0, fitted with Jumo 210 D in-line engine	30.12.36	At Rechlin from 02.01.37
Bf 109 V10 A	D-IAKO	1012	8th Bf 109 B-0, armed with four MG 17 guns	Mid-1937	Used for Werkserprobung
Bf 109 V11	D-IFMO	Unknown	Prototype with a revised wing and armament	01.03.37	Flown late 1937
Bf 109 V12	D-IVRU	1016	1st pre-series a/c of Bf 109 A-0 series fitted with two MG FF and two MG 17, new wings from May 1938	13.03.37	Flown mid-1938
Bf 109 V13	D-IPKY	1050	Fitted with a Rennmotor (racing engine) DB 601/III pre-series engine, a/c unarmed, at Dübendorf/CH, later became Bf 109 E-01	10.07.37	Unknown

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Bf 109 V14	D-ISLU	1029	Fitted with a Rennmotor DB 601/II, a/c unarmed, later became Bf 109 E-02	28.04.37	Unknown
Bf 109 V15	D-IPHR	1773	9th Bf 109 B-0, fitted with a DB 601 and four MG 17, later larger wings and hook for carrier use, Bf 109 E-03	18.12.37	Flown in July 1940
Bf 109 V15 A	D-IPTD	1774	10th Bf 109 B-0 equipped as Bf 109 V15	21.04.38	At Rechlin from 7.06.38
Bf 109 V16	D-IDXG	1775	Prototype fitted with four MG 17 and Jumo 210 D	18.03.38	Unknown
Bf 109 V17	D-IYMS TK+HK	1776	Prototype armed with four electrical-firing MG 17 guns and Jumo 210 D, developed for carrier use	24.02.38	Damaged on 25.07.1938
Bf 109 V17 A	D-IKAC TK+HM	301	Prototype for carrier operations	July 1938	Mentioned in early 1939
Bf 109 V18	D-ISDE	1731	Prototype armed with four electrical-firing MG 17 guns, Jumo 210 D	04.02.38	Unknown

Bf 109 V24 became the fourth pre-series aircraft and later joined Me 309 test programme. (Radinger)

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Bf 109 V19	D-IVSG	1720	Prototype with Jumo 210 D engine and new wings fitted with four MG 17, 1st prototype of Bf 109 C-0	15.11.37	Unknown
Bf 109 V20	D-ICZH	1779	Unknown purpose, a/c fitted with Jumo 210 G	06.10.38	At Rechlin from 2.03.39
Bf 109 V21	D-IFKQ CE+BH	1770 5602	Prototype fitted with Pratt & Whitney Twin Wasp radial engine, later became Bf 109 F-01 pre-series a/c	Aug. 1939	Unknown
Bf 109 V22	D-IRRO CE+BO	1800	Rebuilt to Bf 109 F-0 pre-series a/c, fitted with DB 601	14.01.39	At Rechlin from 21.11.39
Bf 109 V23	D-ISHN CE+BP	1801 5602	Prototype of Bf 109 F-0, with steerable tail wheel, later used for nose wheel tests	09.02.39	Unknown
Bf 109 V24	D-ITDH VK+AB	1929 4504	Air resistance and lift measurements, a/c became Bf 109 F-04, joined Me 309 test programme	Feb. 1939	Mentioned in Feb. 1942



Bf 109 V25 (in background) was fitted with a DB 601 in-line engine to create the more
powerful Bf 109 F day-fighter, and the wings and fin section were altered. (Zucker)

Bf 109 V27 was one of to the last true Bf 109 prototypes. Prototypes V32 to V48 seem

not to have been built because Bf 109 G development was carried out by a number
of pre-series Bf 109 G-0 and other series aircraft with improved engines. ***(MBB)***

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Bf 109 V25	D-IVKC	1930	A/c rebuilt as Bf 109 F-0 pre-series a/c, fitted with DB 601	Feb. 1939	To Tarnewitz 23.11.39
Bf 109 V26	CA+NK	1931	Rebuilt Bf 109 E-3/B	Unknown	To Rechlin on 6.06.40
Bf 109 V27	YK+AB	Unknown	Engine development	Unknown	Unknown
Bf 109 V28 to Bf 109 V29	—	—	A/c possibly used for DB engine development	—	—
Bf 109 V30	ND+IE	5716	A/c used for development of Me 309 fighter a/c, cabin air-conditioning system	Unknown	Unknown
Bf 109 V31	ND+IF	5717	Cabin air-conditioning tests in Me 309 programme	Unknown	Unknown
Bf 109 V32 to Bf 109 V48	—	—	Possibly not built, no further details available	—	—
Bf 109 V49	None	16281	Used for static installation of DB 628 V14 in-line engine	—	Last mentioned in Nov. 1943
Bf 109 V50	DN+KJ	15338	1st prototype with DB 628 V123 prototype engine	18.05.43	Last mentioned 1.11.43
Bf 109 V51 to Bf 109 V53	—	—	2nd to 4th prototype, not produced	—	—

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Bf 109 HV54	PV+JB	15706	1st prototype Bf 109 H, fitted with a DB 605 A-1/B-1 and large wings	02.11.43	Crashed in July 1944
Bf 109 HV55	PV+JC	15707	2nd prototype Bf 109 H, fitted with a DB 605 A-1 and GM 1 system	22.12.43	Destroyed on 25.02.44
Bf 109 HV56	PV+JK	15715	3rd prototype Bf 109 H, fitted with DB 605 A-1 and GM 1 system,	Unknown	Crashed on 14.04.44

Bf 110

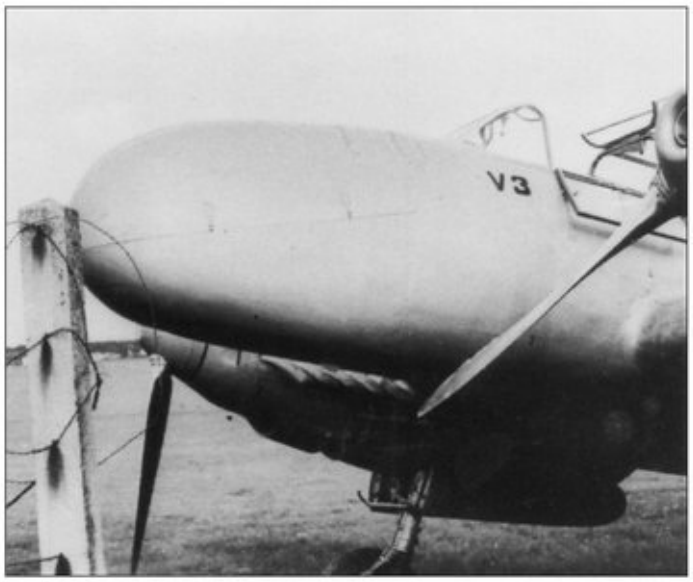
Development of a Flugzeugzerstörer, a heavy two-seat destroyer aircraft, was ordered by the RLM in June 1936. Together with Messerschmitt, Focke-Wulf contributed its Fw 57 and Henschel its Hs 124. Neither was as powerful as the Bf 110 which entered mass production, with 5,960 eventually being produced as

destroyers, fighter-bombers, night-fighters and reconnaissance aircraft. The first were flown at Augsburg and later at one of the Luftwaffe evaluation sites, mainly at Rechlin. Several series aircraft were used as flying testbeds equipped with anti-aircraft rocket systems like the RZ 65 Rauchzylinder (Smoke Cylinder) or with heavy cannon installed beneath the fuselage.

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Bf 110 V1	D-AHOA	868	1st prototype used for flight development with Jumo 10 D (Jumo 210) engines	12.05.36	At Travemünde in Oct. 1937

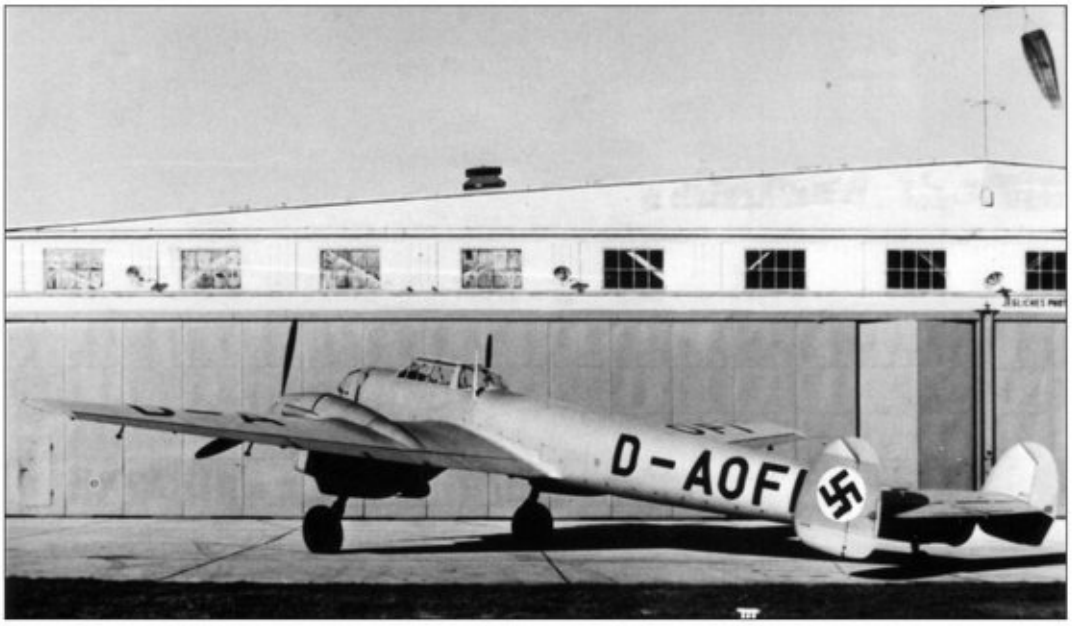
Bf 110 V3 had a new fin, and was powered by two DB 600 As. ***(Nowarra)***

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Bf 110 V2	D-AQYE	869	2nd prototype with two Jumo 210 B engines	24.10.36	At Rechlin in Feb. 1937
Bf 110 V3	D-ATII	870	1st prototype with two DB 600 A engines, later with two DB 601 A	24.12.36	Engine development from July 1940
Bf 110 V4	D-AISY	910	1st prototype with two Jumo 211	1937	Flown at Rechlin from Mar 1939
Bf 110 V5	D-AAHI	911	Prototype (Bf 110 A-0) with new gunsights	1937	Used by Arado from July 1940
Bf 110 V6	D-AUDU	915	General test with DB 601 A later static structure tests	Unknown	Last mentioned May 1941
Bf 110 V7	D-AEDO	917	1st pre-series prototype of Bf 110 B-0, two Jumo 210 G	1938	Unknown
Bf 110 V8	D-ADVO	918	Testing of Me P 6 airscrews and Jumo 210 G engines	1938	Unknown
Bf 110 V9	GK+AS	Unknown	Testing of a prototype canopy	Unknown	Flown in Feb. 1944
Bf 110 V10 to Bf 110 V12	—	—	No details available	—	—
Bf 110 V13	PN+CX	4110	1st prototype of Bf 110 F series	Oct. 1940	Flown at Rechlin in July 1942
Bf 110 V13 A	TE+SJ	3914	2nd prototype of Bf 110 F fitted with DB 601 N and F	Oct. 1940	Flown in Mar. 1943
Bf 110 V14	NM+IX	3950	Bf 110 E-1 prototype with with additional armament	Feb. 1941	Flown until early 1942



Bf 110 V3 during the trials at Augsburg-Haunstetten after both DB 600 As had been replaced by the DB 601 As. (Radinger)

Bf 110 V9, a former B-1 aircraft, was used for testing a modified cabin structure. Later the aircraft was flown by a training unit as GK+AS at Brandenburg early in 1944. ***(Krieg)***



Bf 161 V2, powered by two Jumo 210 in-line engines, was initially tested at

Augsburg.
Later the aircraft was used for different development purposes. (Radinger)

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Bf 110 (V15)	SJ+KD	4116	1st prototype of Bf 110 G series with two DB 605	Oct. 1941	Mentioned in early 1942

Bf 161

In August 1935 Messerschmitt received an order from the RLM to take part in a competition for a Höhenfernaufklärer, a twin-engine high-altitude reconnaissance aircraft. Because the performance of the Do 17 proved to be superior to the Messerschmitt prototypes, only two were completed and were later used to carry the prototype of Lippisch's FG 03 and F 04 Ferngleiter (long-range glide bomb) and in other experiments.

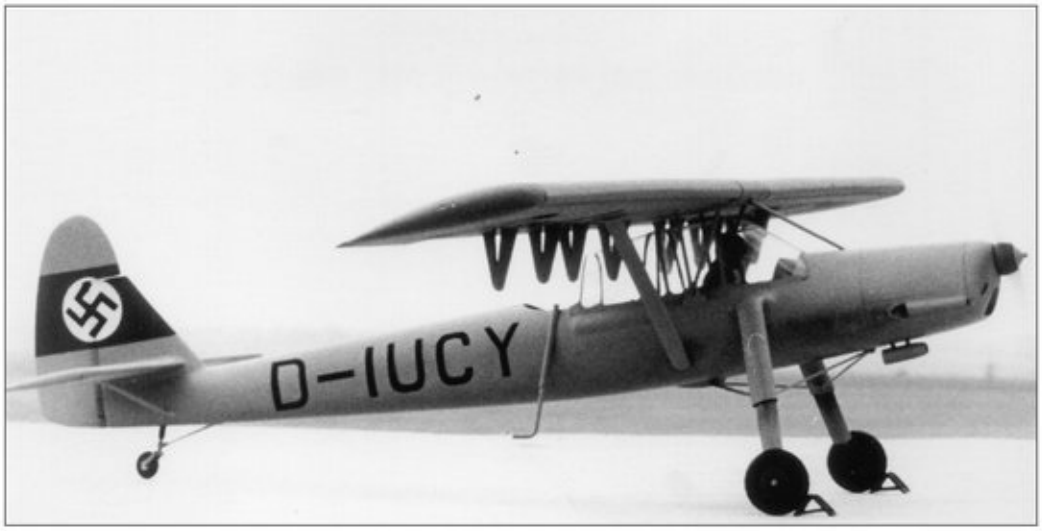
Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Bf 161 V1	D-AABA	811	1st prototype fitted with two DB 600 engines	09.03.38	Handed over to E- Stelle Rechlin as towing aircraft
Bf 161 V2	D-AOFI	812	1st prototype fitted with two Jumo 210 engines	30.08.38	Finally used for Me 163 towing
Bf 161 V3	—	813	Not completed, because contract was terminated	—	All parts scrapped

The second Bf 162 was powered by two Jumo 210s. Because the Ju 88 was chosen from the competition, the RLM cancelled the development of the Hs 127 and Bf 162. (Radinger)

Bf 162

The Bf 162 was a three-seat Schnellbomber (fast bomber) design which lost the competition with the Ju 88. Development was therefore abandoned on 9 March 1938 and the few aircraft completed took part in the Me 163 development programme as towing aircraft.

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Bf 162 V1	D-AXIA	817	1st prototype fitted with two DB 600 engines	26.02.37	Used for Me 163 towing trials
Bf 162 V2	D-AOBE	818	1st prototype fitted with two Jumo 210 engines	Oct. 1937	Used for Me 163 towing trials
Bf 162 V3	D-AOVI	819	2nd prototype fitted with two Jumo 210 engines	June 1938	Scrapped
Bf 162 V4	—	820	Proposed a/c to be fitted with two DB 601 engines	Unknown	Unknown
Bf 162 V5	—	821	Proposed a/c to be fitted with two DB 601 engines	Unknown	Unknown



Only one of three proposed Bf 163 prototypes was ever completed. Because no authentic views are available, only photos of a model are known. ***(MBB)***

Bf 163

Only one example of the small Bf 163 liaison aircraft was completed. Messerschmitt had worked on the design since September 1935 and it was flown in 1938. Following a year of trials the RLM decided to terminate all work on the Bf 163 and to build the Fi 156 in large numbers instead.

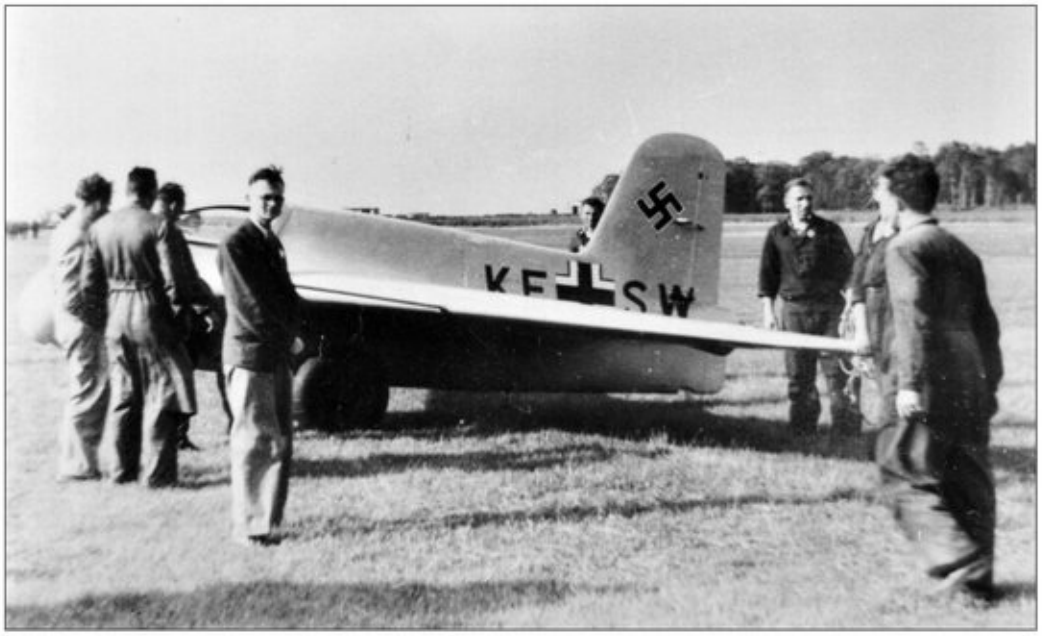
Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Bf 163 V1	D-IUCY	163. 001	1st prototype, fitted with an As 10 C engine	18.09.38	Handed over to Flieger-technische Schule at Munich on 29.09.39
Bf 163 SV2	—	163.002	2nd prototype, not completed	—	Parts scrapped after 1939
Bf 163 SV3	—	163.003	3rd prototype, not completed	—	Parts scrapped after 1939

Me 163

The first rocket-propelled fighter aircraft used by the Luftwaffe, the Me 163, followed the DFS 194 and a prototype series of Me 163 A-0s, of which the first, Me 163 V4, was flown from summer 1941 propelled by a ‘cold’ rocket engine. The second step, the Me 163 B, was tested with different rocket engines, though these had only a single combustion chamber. The C series was equipped with an

altered rocket unit which allowed a higher performance, range and flight endurance. But only a few C series aircraft were finally tested.

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Me 163 AV4	KE+SW	163 000-0001	1st prototype, used for towed, then for rocket-assisted trials, HKW R II 203	13.08.41	Unknown

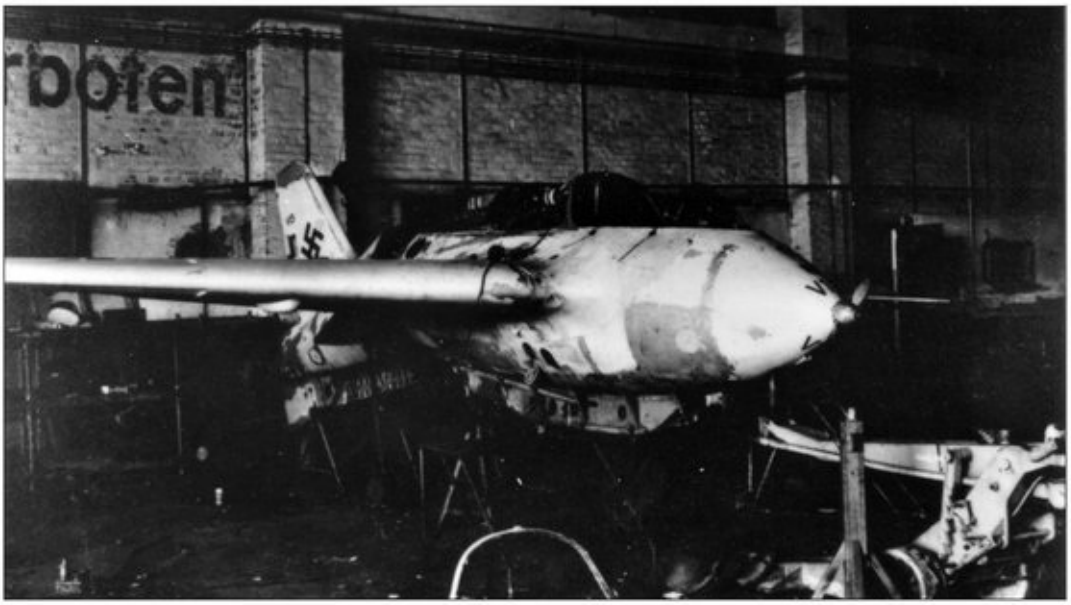


Me 163 V4 (or AV4) was the first prototype of a fast rocket-propelled fighter. (Radinger)

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Me 163 AV5	GG+EA	0002	2nd prototype, not fitted with an HWK RII 203 rocket engine	08.11,41	Unknown
Me 163 AV6	CD+IK	0003	3rd prototype, flown with a HWK RII 203 A	15.07.42	Unknown
Me 163 AV7	CD+IL	0004	4th prototype, used for training purposes	23.05.42	May 1942 planned flight date (Flugklartermin – FKT); flown on 30.11.43
Me 163 AV8	CD+IM	0005	5th prototype used with a new auxiliary rudder	14.07.42 (FKT)	Unknown
Me 163 AV9	CD+IN	0006	6th prototype, partly flown without rocket system	30.07.42 (FKT)	Flown on 23.12.43
Me 163 AV10	CD+IO	0007	7th prototype, tested with altered undercarriage	03.09.42 (FKT)	Flown on 09.08.44
Me 163 AV11	CD+IP	0008	8th prototype, fitted with improved RII 203 B	31.08.42 (FKT)	Flown on 11.08.44
Me 163 AV12	CD+IQ	0009	9th prototype, flown without rocket engine	16.10.42	Flown on 10.12.43
Me 163 AV13	Unknown	0010	10th prototype, flown without rocket engine	01.03.43 (FKT)	Flown on 06.08.44
Me162 BV1	VD+EK	10010	1st prototype of Me 163 B series, used for brake chute development	May 1942	Flown on 23.05.44
Me 163 BV1A	Unknown	Unknown	Prototype with a new wing structure, wings later used with Me 163 B-0/V6	Mid. 1942	Unknown
Me 163 BV2	VD+EL	10011	General flight development	Mid-1942	Unknown
Me 163 BV3	VD+EM	Unknown	Evaluation of a fast fuel release system	Mid-1942	Unknown
Me 163 BV4	VD+EN	10014	Prototype used for wireless operation system, later flown by JG 400	Mid 1842	Flown on 07.10.44
Me 163 BV5	VD+EO	Unknown	General flight development	Mid-1942	Crashed on 13.10.42
Me 163 BV6	CE+RE	10015	Engine development with HWK 509 B-1V10; wings of BV6 later used on other a/c	Mid-1942	Last mentioned in Oct. 1944
Me 163 BV7	VD+EP	10016	Testing a new engine, flight-tested by JG 400	Sept. 1943	Flown on 03.10.44
Me 163 BV8	VD+EQ	10017	Operational, used by JG 400	Early 1943	Flown on 11.08.44
Me 163 BV9	VD+ER	10018	Development of fixed guns	30.09.43	Unknown
Me 163 BV10	VD+ES	10019	Evaluation of a BMW rocket and a new fuel tank system	Late 1943	Unknown
Me 163 BV11	VD+ET	10020	No information available	—	—
Me 163 BV12	VE+EU	10021	Operational fighter a/c used by JG 400	Dec. 1943	Flown on 04.10.44

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Me 163 BV13	VD+EV	10022	Became 1st Me 163 D prototype with HWK 509 C rocket unit	Dec. 1943	Flown on 14.05.44
Me 163 BV14	VD+EW	10023	Tactical development trials	Sept. 1943	Unknown
Me 163 BV15	VD+EX	10024	High speed trials by Luftwaffe	Sept, 1943	Unknown
Me 163 BV16	VD+EY	10025	Development of additional rocket-assisted take-off	Sept. 1943	Unknown
Me 163 BV17	VD+EZ	10026	No information available	—	—
Me 163 BV18	VA+SP	10027	High-altitude flight trials, a/c became a 2nd Me 163 D, fitted with HWK 509 C rocket engine	Aug. 1943	Last mentioned in Feb. 1945
Me 163 BV19	VA+SQ	10028	Trials of new flaps	Sept, 1943	Unknown
Me 163 BV20	VA+SR	10029	General flight development at Peenemünde West	Aug. 1943	Unknown
Me 163 BV21	VA+SS	10030	Undercarriage and high-altitude trials	June 1943	Unknown
Me 163 BV22	GH+IA	10031	Rocket-assisted take-off trails and new starter unit	Aug. 1943	Damaged on 20.05.44
Me 163 BV23 to Me 163 BV30	GH+IB to GH+II	10032 to 10039	No information available; aircraft possibly used for tests by Messerschmitt or JG 400	—	—

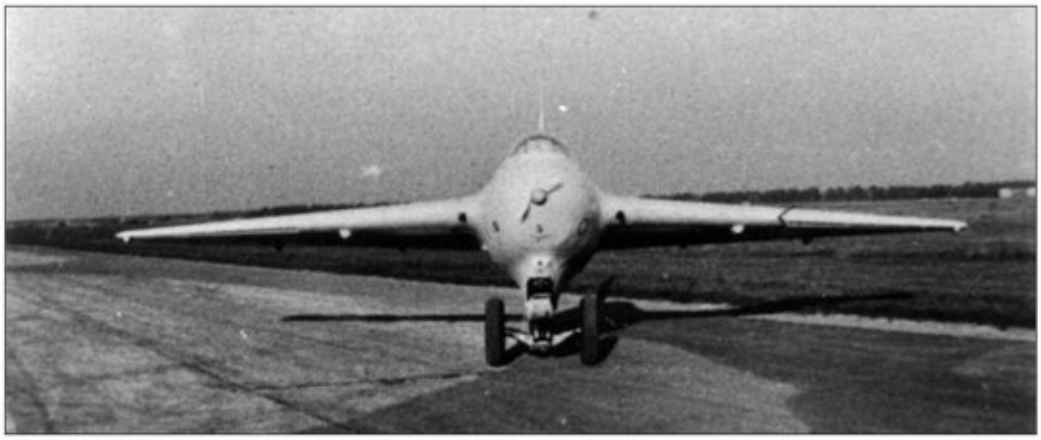
The difficulty of landing on a central skid and then recovering the aircraft necessitated the installation of wheeled landing gear. The first experiments took place with Me 163 BV10. ***(Nowarra)***



Me 163 BV13 was equipped with an HWK 509 C rocket fitted with twin combustion chambers, which gave greater flight endurance. The aircraft was captured at Pölzen in April 1945. (USAF)

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Me 163 BV31	GH+IJ	10040	Operational fighter a/c used by JG 400, possibly with pressurized cabin section	Mid-1943	Flown on 02.10.44
Me 163 BV32	GH+IK	10041	Release of cockpit fairing undertaken at Lechfeld	Feb. 1944	Unknown
Me 163 BV33	GH+IL	10042	Acceleration and performance flights	Feb. 1944	Unknown
Me 163 BV34	GH+IM	10043	Development of advanced rocket engine system	Unknown	Unknown
Me 163 BV35	GH+IN	10044	Prototype used for trials with new flaps	Early 1944	Unknown
Me 163 BV36 to Me 163 BV39	GH+IO to GH+IR	10045 to 10048	No information available	—	—
Me 163 BV40	Unknown	10049	Rocket engine development	Mid-1944	Unknown
Me 163 BV41	PK+QL	10050	Acceleration flights and flight behaviour	Mid. 1944	Unknown
Me 163 BV42	PK+QM	10051	No information available	—	—
Me 163 BV43	PK-QN	10052	Evaluation of a new skid	Mid-1944	Destroyed on 19.07.44
Me 163 BV44	PK+QO	10053	Operational fighter a/c used by JG 400	Mid-1944	Flown on 29.06.44

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Me 163 BV45	PK+QP	10054	Armament development a/c used by Erprobungs-kommando 16 (EK 16)	Mid-1944	Unknown
Me 163 BV46	PK+QQ	10055	1st a/c fitted with two heavy MK 108 cannon	Mid-1944	Unknown
Me 163 BV47	PK+QR	10056	No information available	—	—
Me 163 BV48	PK+QS	10057	Operational fighter a/c used by JG 400	Mid-1944	Flown on 18.06.44
Me 163 BV49	PK+QT	10058	No information available	—	—
Me 163 BV50	PK+QU	10059	No information available	—	—
Me 163 BV51	GH+IT	10060	No information available	—	—
Me 163 BV52	GH+IU	10061	Operational fighter a/c used by JG 400	Mid-1944	Flown on 19.04.45
Me 163 BV53	GH+IV	10062	Operational fighter a/c used by JG 400	Mid-1944	Flown on 04.08.44
Me 163 BV54	GH+IW	10063	Operational fighter a/c used by JG 400	Mid-1944	Flown on 17.06.44
Me 163 BV55 to	GH+IX	10064	No information available	—	—
Me 163 BV57	GN+MA	10065	No information available	—	—
Me 163 BV58	GN+MB	10067	Operational fighter a/c used by JG 400	Mid-1944	Unknown
Me 163 BV59	GN+MC	10068	Operational fighter a/c used by JG 400	Mid-1944	Unknown
Me 163 BV60	GN+MD	10069	No information available	—	—
Me 163 BV61	GN+ME	10070	Operational fighter a/c used by JG 400	Mid-1944	Destroyed on 07.10.44



The front view of Me 163 BV21 (VA+SS) shows the guns fitted in each wing root. This aircraft was used for flight behaviour and performance tests. (Radinger)

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Me 163 BV62	GN+MF	10071	Operational fighter a/c used by JG 400	Mid-1944	Flown on 27.11.44
Me 163 BV63	GN+MG	10072	Operational fighter a/c used by JG 400	Mid-1944	Unknown
Me 162 BV64	GN+MH	10073	Operational fighter a/c used by JG 400	Mid-1944	Unknown
Me 163 BV65	Unknown	10074	Operational fighter a/c used by JG 400	Mid-1944	Unknown
Me 163 BV66	Unknown	10075	Operational fighter a/c used by JG 400	Mid-1944	Unknown
Me 163 BV67	Unknown	10076	Operational fighter a/c used by JG 400	Mid-1944	Unknown
Me 163 BV68	Unknown	10077	Operational fighter a/c used by JG 400	Mid-1944	Unknown
Me 163 BV69	Unknown	10078	Operational fighter a/c used by JG 400	Mid-1944	Unknown

The development of the former Bf 208 as a new liaison aircraft equipped with a nose-wheel undercarriage was undertaken by SNCAN in occupied France. ***(Ricco)***

Me 208

A development of the four-or five-seat Bf 108, the advanced Me 208 with improved equipment was developed by SNCAN at Les Mureaux, which was severely hit by Allied bombs in 1944. Therefore only the first prototype was

completed during the German occupation. Later a few more aircraft were finished and tested by French engineers during the second half of 1944 as the Nord 1101.

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Me 208 V1	GK+RZ	Unknown	1st prototype, fitted with As 10 C engine	July 1943	Unknown
Me 208 V2	KR+BZ	Unknown	2nd prototype	Unknown	Captured by Allied forces summer 1944
Me 208 V3 to Me 208 V10	—	Unknown	Under construction early June 1944	—	Used by SNCAN from mid-1944

Bf/Me 209

With the exception of the Bf 209 V1 Rekordflugzeug (record plane) only three more examples of the type were built, all featuring a cockpit set well aft in the fuselage. A few aircraft were tested with full armament, but the poor range of the design prevented an operational career. The fifth prototype tested by Messerschmitt was an entirely different design, embodying many Bf 109G components and fitted with a DB 628, but was abandoned finally.

Bf 209 V4 was one of the first four prototypes of an advanced single-seat day-fighter built at Augsburg in 1939. (Radinger)

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Bf 209 V1	D-INJR	1185	1st prototype, fitted with a DB 601 A-1 in-line engine, later DB 601 ARJ	01.08.38	On 26.04.40 to Luftfahrtsammlung, Berlin
Bf 209 V2	D-IWAH	1186	2nd prototype equipped with surface cooling system	02.02.39	On 01.03.41 a/c became Reich property
Bf 209 V3	D-IVFP	1187	3rd prototype with regular DB 601 A engine	May 1939	Destroyed by Allied bombs
Bf 209 V4	D-IRND CE+BW	1188	4th prototype, A-1 pre-series armed a/c and larger wing structure	12.05.39	Scrapped by LZA at Erding, 1943
Me 209 V5 Me 209 HV1	SP+LJ	16281	5th prototype, fitted with DB 603 A, later with 603 G, and finally DB 628 V	03.11.43	Destroyed in Allied air raid, 14.08.44

The fifth prototype, Me 209 HV5, differed significantly from its predecessors. It was designed as a high-altitude fighter with larger wings and improved propulsion. (Radinger)

Bf/Me 210

The Bf 210 heavy destroyer aircraft, later designated Me 210, at first displayed

poor flight behaviour. Therefore a very long development period was necessary to achieve a combat aircraft ready for an operational career. The first part of flight development was done at Augsburg and other places in Bavaria. E-Stelle Rechlin also became involved in attempts to create a powerful destroyer and fighter-bomber out of the initial Messerschmitt design.

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Bf/Me 210 V1	D-AABF CE+BY	210 - 0001	1st prototype fitted with twin fins and DB 601 Bf engines	05.09.39	Scrapped in autumn 1941
Me 210 V2	D-ABEO WL-ABEO CE+BZ	0002	2nd prototype, single fin two DB 601 Bf engines	10.10.39	Crashed on 05.09.40
Me 210 V3	CF+BA	0003	Static and weapons tests	Late 1939	At Tarnewitz in Sept. 1940
Me 210 V4	CF+BB	0004	Evaluation of radio sets, dive brakes and RZ 65 projectiles	Late 1939	Based at Tarnewitz in 1943
Me210 V5	ND+NX	0005	Flight testing with DB 601 Bf engines	1939	At Rechlin from Nov. 1940
Me 210 V6	ND+VY	0006	Evaluation of flying behaviour with two DB 601 engines	1940	At Rechlin from May 1941
Me 210 V7	ND+VZ	0007	Trials with a de-icing system	1940	Scrapped after Oct. 1942
Me 210 V8	NF+LA	0008	Undercarriage testing and wireless operation systems	1940	Scrapped after Oct. 1942
Me 210 V9	NF+LB	0009	Flight tests with enlarged wings, new rudder and DB 601 F in-line engines	Nov. 1940	Flown late 1942

The first Bf 210 (V1) was ready for flight evaluation in the autumn of 1939, only

three years
after the first take-off of the Bf 110 destroyer prototype. ***(MBB)***

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Me 210 V10	GI+SN	0010	General flight development with two DB 601 F engines	Dec. 1940	Scrapped after Nov. 1941
Me 210 V11	GI+SO	0011	General flight development with two DB 601 F engines	Feb. 1941	Crashed on 25.02.41
Me 210 V12	GI+SP	0012	Diving flight and bomb-release system during dive	Mar. 1941	Possibly scrapped Oct. 1942
Me 210 V13	GI+SQ	0013	Trials with 4-bladed airscrews and revised cooling system, DB 601 F	Apr. 1941	Mentioned in May 1943
Me 210 V14	GI+SR	0014	Air-brake parachute and ejection seat and spin trials	May 1941	At Rechlin in Oct. 1942
Me 210 V15	GI+SS	0015	Wireless operation trials and cooling system for DB 601 F	June 1941	Mentioned on Feb. 1942
Me 210 V16	GI+ST	0016	Strengthened fin section and performance trials	July 1941	See Me 410 V17
Me 210 V17	NE+BH	0101	1st prototype of Me 210 C-0, with longer fuselage and DB 605 F engines	Feb. 1942	Flown as reconnaissance a/c in 1943
Me 210 V17A	VC+SZ	0162	Prototype with revised landing flaps	Mid-1941	Crashed on 7.10.42
Me 210 V18	PN+PD	0105	Prototype fitted with two DB 605 engines	Feb. 1942	Flown in Oct. 1942
Me 210 V18A	VC+SY	0161	Prototype with DB 605 installation	Feb. 1942	Unknown
Me 210 V19 and Me 210 V20	—	—	No information available	—	—
Me 210 V21	GF+CX	2344	Prototype with advanced avionics	June 1941	Mentioned in Feb. 1942
Me 210 V22	GF+CY	2345	DB 605 development trials	Mid-1941	To Rechlin on 19.10.42
Me 210 V23	GF+CZ	2346	Measure of different drag coefficients	Mid-1941	Flown in Dec. 1942
Me 210 V24	GE+KS	2345	Evaluation with a heavy BK 37 cannon and possibly GM 1 nitrous-oxide boost	Unknown	To Travemünde on 28.04.43

Me 261 Spessart

The Me 261 long-range reconnaissance and liaison aircraft, capable of a range of some 11,000 km, was developed from 1935, but lack of capacity delayed the roll-out of the first prototype until late 1940. Because of problems with the retractable undercarriage and the engines, trials were delayed.

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Me 261 V1	BC+CP	261 0001 (2445)	1st prototype fitted with DB 601 A-1/B-1, later new metal airscrews	23.12.40	To Rechlin on 25.09.42, bombed in 1944
Me 261 V2	BJ+CQ	2446	2nd prototype fitted with DB 601 A-1/B-1	Dec. 1941	Laid up at Lechfeld from late 1942
Me 261 V3	BJ+CR	2447	3rd prototype with increased wing area	Oct. 1942	Crash landing at Lechfeld on 9.07.43

The Me 261 V2 prototype of this long-range courier and transport aircraft, survived
the war and was finally captured by American ground forces at Lechfeld proving ground at the end of April 1945. ***(Rohrbach)***

Me 262

The well-known Me 262 jet fighter was the first aircraft of this type to be introduced by the Luftwaffe. Before the first prototype jet became available for testing, Willy Messerschmitt and his construction bureau had spent nearly five years designing this new kind of warplane. The flights were made with a Jumo 210 G in-line engine and less reliable BMW 3202 jets. Trials of the Me 262 with two Jumo 004 jets only began in late 1942. Engine difficulties and problems with the three-wheel undercarriage were mainly responsible for the delay. Tactical trials and tests of equipment components, installed in different

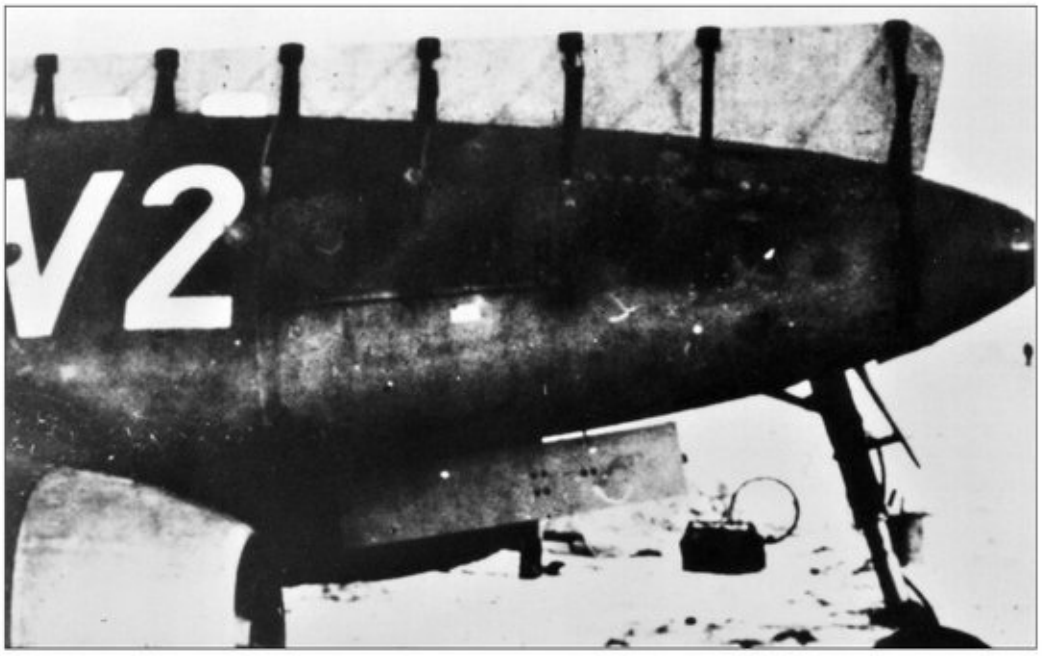
prototypes, also took a great deal of time. After initial trials at Augsburg-Haunstetten, further work continued at Lechfeld and was finished at Rechlin more than eighteen months later.

Me 262 V1 (PC+UA) was tested initially with a Jumo 210 in-line engine fitted in the nose.
Later the aircraft received two early BMW P 3302 jets which proved unable to meet the RLM specification. ***(MBB)***

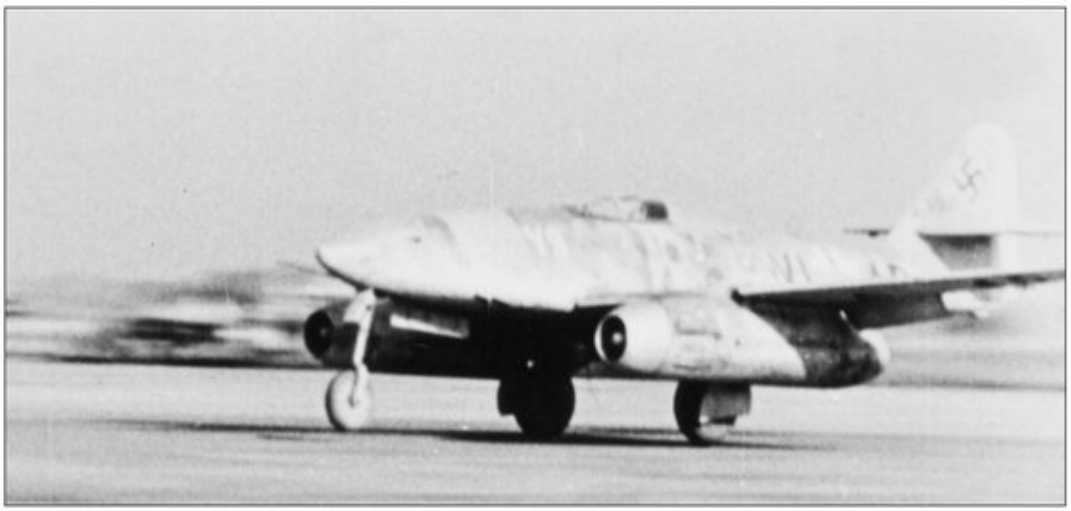
Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Me 262 V1	PC+UA	262 000 0001	Initially flew with single Jumo 210 G piston engine in nose, then two BMW 3302 added underwing; then piston engine removed and BMWs replaced by two Jumo 004 A-0	25.03.42	Crashed on 7.06.44
Me 262 V2	PC+UB	0002	2nd prototype fitted with two Jumo 004 A-0	01.10.42	Crashed on 18.04.43
Me 262 V2 (second V2)	None	170056	Prototype with cut down fin and rudder	July 1944	Flown until early 1945
Me 262 V3	PC+UC	0003	3rd prototype flown with a larger engine covering, a larger fin and a longer fuselage	17.07.42	Damaged by bombs in Sept. 1944
Me 262 V4	PC+UD	0004	4th prototype with similar equipment to V3	15.05.43	Landing incident 26.07.43
Me 262 V5	PE+UE	0005	5th prototype flown with a fixed forward undercarriage and rocket-assisted take-off system	07.06.43	Crashed on 01.02.44
Me 262 V5 (second V5, also Me 262 V167)	None	130167	Testing a/c fitted with EZ 42 gyroscopic gunsight	31.03.44	Flown until Apr. 1945

After being badly damaged in an early take-off accident, the third Me 262 (V3, PC+UC) was repaired to fly again on 20 March 1943, only to be damaged beyond repair

in an Allied air raid in September 1944 after its 149th test flight. ***(Rohrbach)***



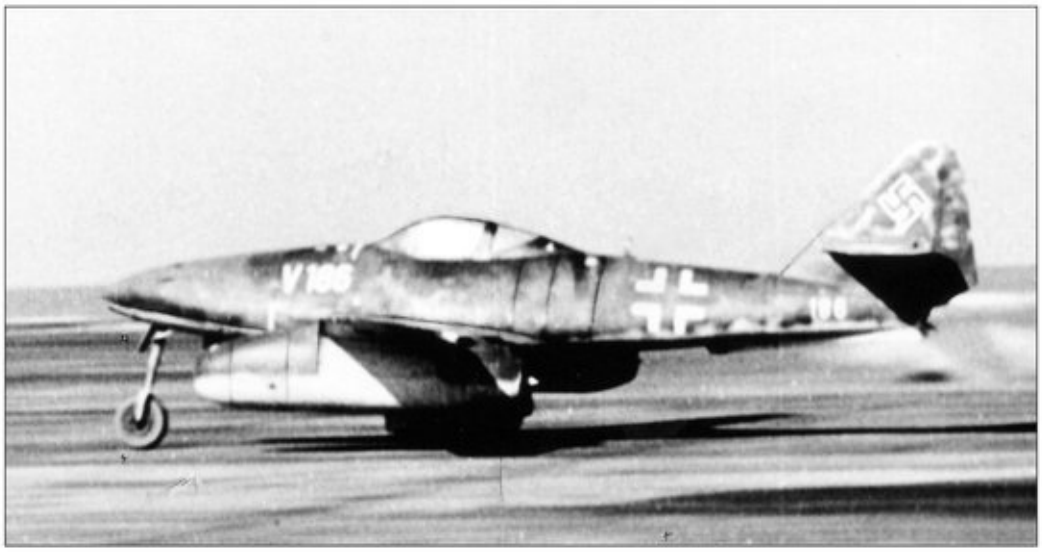
When the original Me 262 V2 was destroyed in a crash on 18 April 1943 a replacement V2
(one of the Me 262 A-1 series machines) joined the evaluation programme in July 1944
and was used for stability trials and other tests. (Zucker)



Me 262 V9 was the first high-speed conversion of the Me 262 A-1a. It was equipped
with a new shape low-drag canopy known as the Rennkabine ('racing canopy'). Trials were carried out at Lechfeld where the main Me 262 testing took place.
(Creek)

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Me 262 V6	VI+AA	130001	6th prototype, with retractable undercarriage and two Jumo 004 B-1 jets	17.10.43	Crashed on 08.03.44
Me 262 V7	VI+AB	130002	7th prototype used for flight development with two Jumo 004 B-1 jets	20.12.43	Crashed on 18.05.44
Me 262 V7 (second V7)	None	170303	Performance flights, bomb system beneath the fuselage	22.09.44	Unknown
Me 262 V8	VI+AC	130003	8th a/c, fully armed with four MK 108 guns	15.12.43	Flown by KG 51 in Apr. 1945
Me 262 V9	VI+AD	130004	9th prototype with a revised fin and a prototype cabin structure Rennkabine (racing canopy)	19.01.44	Flown during Apr. 1945
Me 262 V10	VI+AE	130005	10th prototype used for bomb testing and towed bomb array	01.04.45	Flown in Mar. 1945
Me 252 V056	None	170056	Prototype Me 262 A-1a tested with FuG 218 radar system and four MK 108	July 1944	Flown in Mar. 1945
Me 262 V074	None	170074	Prototype Me 262 C-2b Heimatschützer II (Homeland Protector), fitted with two BMW 003 R	26.03.45	Captured on 27.04.45 at Lechfeld

Me 262 V555, a fast two-seat bomber, with an observer lying in prone position, crashed in
late March 1945 and was captured by US forces in the closing weeks of the war. (USAF)



Me 262 V186 was the first high-altitude jet fighter tested with a third propulsion

unit fitted in
the rear part of the fuselage. ***(Creek)***

Me 262 V083, a rebuilt Me 262 A-1a, was equipped with a heavy MK 214 gun fixed in the
forward part of the standard fuselage which was only lightly altered. ***(MBB)***

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Me 262 V078	None	170078	1st prototype Me 262 A-1a fitted with two BMW 003 A-1 to become Me 262 A-1b	21.10.44	Flown in early Apr. 1945
Me 262 V083	None	170083	1st prototype Me 262 A-1 /U4, with an Mk 214 cannon in nose	Oct. 1944	Captured on 27.04.45 at Lechfeld
Me 262 V167	None	130167	Prototype variant fitted with an EZ 42 gunsight	31.03.44	Flown until Mar. 1945
Me 262 V186	None	130196	1st prototype Me 262 C-1 with an additional HWK 509 S-1 rocket engine in the rear fuselage section	16.10.44 20.04.45	Laid up at Lechfeld on
Me 262 V8 (second V8) Me 262 V484	None	110484	1st prototype Me 262 A-2a/U2, a Schnellstbomber mit Lotfe ('ultra-fast bomber with Lofte bombsight'), two crew members	Sept. 1944	Unknown
Me 262 V11 Me 262 V555	None	110555	2nd prototype Me 262 A-2a/U2, a Schnellstbomber mit Lotfe, observer/bomb-aimer in prone position	Sept. 1944	Crashed on 30.03.45

Me 263

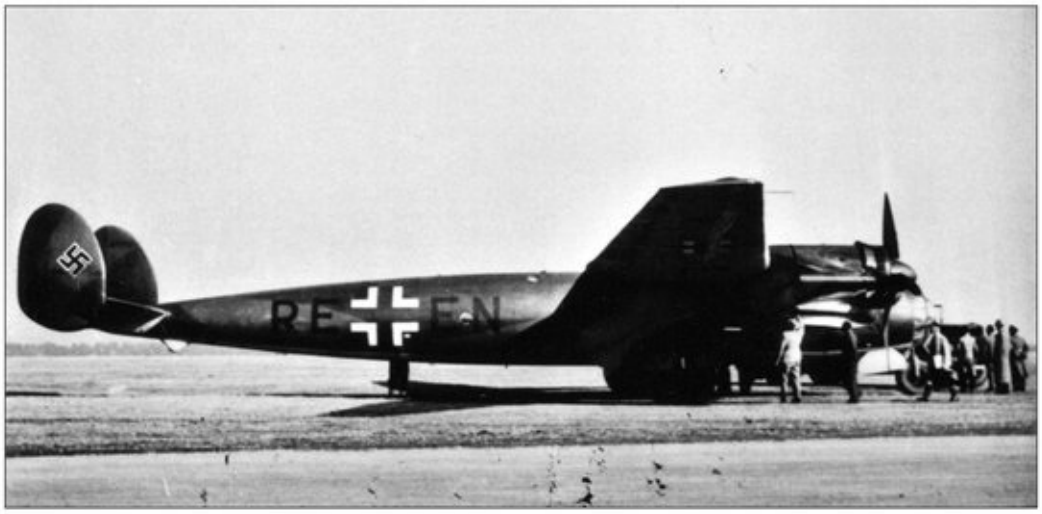
Because the Messerschmitt works had reported a lack of capacity in its construction and development branch, the RLM decided to hand over development of the Me 263 advanced rocket fighter to Junkers at Dessau and Oranienbaum.

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Me 263 V1 ff.	—	—	See Junkers Ju 248	—	—

Me 264 Sudeten

The huge Me 264 four-engine long-range reconnaissance and combat aircraft never became ready for operational use due to a weak structure and problems with its undercarriage, rudders and fin section. Flight development was at Augsburg, later at Lechfeld and finally at Memmingen where Me 264 V1 was destroyed by bombing.

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Me 264 V1	RE+EN		1st prototype, fitted with four BMW 801 ML-2, later with four Jumo 211 J	23.12.42	Destroyed by Allied bombs on 18.07.44
Me 264 V2	—	—	2nd prototype never completed,	—	All parts scrapped late 1944
Me 264 V3	—	—	3rd prototype never completed, armament was planned	—	Parts scrapped late 1944



The sole prototype (V1) of the Me 264 long-range combat aircraft (RE+EN) was tested for some eighteen months before it was hit by Allied bombs and scrapped. ***(MBB)***

The ill-fated Me 309, an advanced heavily armed single-seat piston-engined fighter,
began flight trials in the summer of 1942. However, work on the type ended when the Me 262 with its superior jet propulsion proved more effective. ***(MBB)***

Me 309

Messerschmitt offered the well-armed Me 309 in 1941 to replace fighters like the Bf 109 G. Four prototypes were completed and test-flown. The flight behaviour was poor, therefore the RLM and OKL introduced the Fw 190 D-9. All development ceased on 20 May 1943 in favour of the Me 262 A-1a.

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Me 309 V1	GE+CU		1st prototype, revised undercarriage, stability flights, fitted with a DB 603 A-1/B-1	18.07.42	Flown late Nov. 1942
Me 309 V2	GE+CV		2nd prototype, fitted with a DB 603 A in-line engine	29.11.42	Crashed on 29.11.42
Me 309 V3	CA+NK		3rd prototype, replacement for Me 309 V2	Mar. 1943	Unknown
Me 309 V4	RH+LH		4th prototype, first a/c fitted with armament and DB 603 B in-line engine	July 1943	Destroyed by Allied bombs in 1944

Me 310

Only two prototypes of the Me 310 became available. Willy Messerschmitt proposed a high flying combat plane fitted with a pressurized cabin and having an increased wingspan and lengthened fuselage. The first flight is not confirmed but sources suggest that the Me 310's wings were fixed on the fuselage of an Me 410 and tested.

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Me 310 V1	—	—	Production of parts, but contract terminated on 1.11.42 by RLM	11.09.43?	Scrapped and used for Me 410 evaluation
Me 310 V2	—	—	See Me 310 V1	—	See Me 310 V1

Me 210 V13 (GI+SQ) was intended as the prototype for the proposed Me 310 Defence of the Reich high-altitude heavy fighter, but development was abandoned in favour of the Me 410 and the new-generation jet fighters. (Creek)

Me 321

The unpowered Me 321 transport glider was constructed to take part in the invasion of Great Britain planned for 1941. At least five prototypes were completed and evaluated early in 1941 at Obertraubling. As well as trialling suitable towing aircraft, tests using rocket-assisted take-off were also made there.

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Me 321 V1	W1+SA	0001	1st prototype glider, towed by Ju 90 V7	25.02.41	Crashed on 13.04.41
Me 321 V2	W1+SB	0002	2nd prototype glider, towed by three Bf 110s	24.03.41	Last mentioned on 04.05.41

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Me 321 V3	W1+SC	0003	3rd prototype glider, towed by three Bf 110s	04.04.41	Unknown
Me 321 V4	W1+SD	0004	4th prototype glider, towed by three Bf 110s	09.04.41	Unknown
Me 321 V5	W1+SE	0005	5th prototype glider, towed by three Bf 110s	10.04.41	Unknown

The huge Me 321 transport glider was produced as part of the Projekt Warschau large
transport glider programme. Initially, the aircraft were controlled by a single pilot, who
proved to be unable to fly the glider properly. (Franzke)

Me 323

The Me 323 was a powered version of the Me 321 glider. Trials with a first prototype fitted with four radial engines took place at Obertraubling near Regensburg. After it had become obvious that the number of engines was insufficient, several six-engine variants were produced in the summer of 1941. Later on a new cabin section and a steadily increased defensive armament were provided and intensively tested. Parachute air brakes were also considered.

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Me 323 AV1	W1+SZ	Unknown	1st prototype, fitted with four Gnome-Rhône radial engines	21.04.41	Unknown

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Me 323 BV1 Me 323 V1	W9+SA	Unknown	2nd prototype, fitted with six Bloch engines	Aug. 1941	Unknown
Me 323 V2	DT+DK	801	Evaluation with four captured Bloch engines	1941	Unknown
Me 323 V3	DT+DL	802	Evaluation with six captured Bloch engines	1941	Handed over to Luftwaffe on 1.10.42
Me 323 V4	DT+DM	803	Evaluation with new BV controls, six Bloch engines	1941	Unknown
Me 323 V5	DT+DN	804	Evaluation with four LeO engines	1941	Laid up late 1942
Me 323 V6	DT+DO	805	Evaluation with four LeO engines and vibration tests	1941	Laid up late 1942
Me 323 V7	DT+DP	806	1st pre-series a/c fitted with six Gnome-Rhône engines	1942	Unknown
Me 323 V8	DT+DQ	807	2nd pre-series a/c fitted with six Gnome-Rhône engines	1942	Laid up late 1942
Me 323 V9	DT+DR	808	Under construction in Nov. 1942 using series engines	1942	Unknown
Me 323 V10	DT+DS	809	Flight development with a revised fuselage and a new fin section	1942	Unknown

Developed from the Me 321 heavy transport glider, Me 323 AV1's four engines left it seriously underpowered. Subsequent prototypes carried six engines. (Dabrowski)

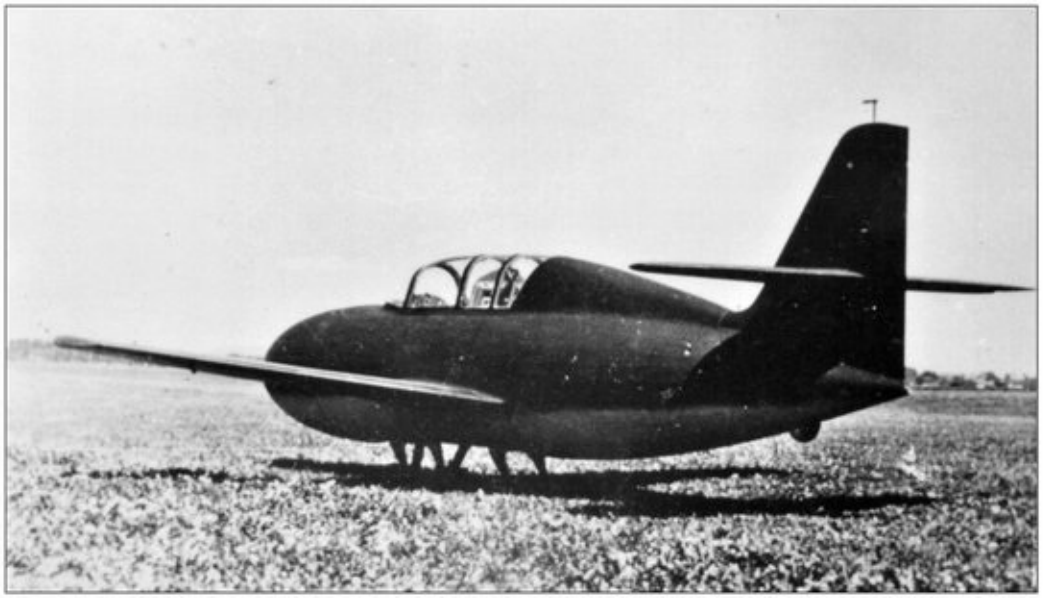
Me 323 AV1 did not meet the requirements set by the General der Transportflieger,
the inspecting officer of German air transport units. (Dabrowski)

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Me 323 V11	DT+DT	810	Prototype with internal rudders	1942	Unknown
Me 323 V12	DT+DU	811	Tactical series evaluation, 100 hours test flight	Apr. 1942	Unknown
Me 323 V13	DT+DV	812	1st prototype of Me 323 E-1	Mid-1942	Scrapped early 1943
Me 323 V14	DT+DW	813	Prototype with four Jumo 211 J in-line engines and a new cabin section	Late 1942	Mentioned on 1.01.43
Me 323 V15	DT+DX	814	2nd prototype of Me 323 E-2 with two HDL 131 gun turrets	End 1942	Unknown
Me 323 V16	DT+DY	116001	1st prototype of Me 323 F-1 series with Jumo 211	1942/43	Crashed on 30.09.44
Me 323 V17	Unknown	Unknown	1st prototype of Me 323 G-1 series, six Gnome-Rhône 14 R radial engines	1942/43	Unknown
Me 323 V18	Unknown	130027	2nd prototype of Me 323 F-1 with braking parachute	1942/43	Unknown
Me 323 V19	—	—	2nd prototype of Me 323 F-1 with braking parachute, not completed	—	Scrapped
Me 323 V20 to Me 323 V24	—	—	Prototype of Me 323 F-2 fitted with six Jumo 211 F	—	—
Me 323 V25 to Me 323 V24	—	—	Prototype of Me 323 G-1 fitted with six Gnome-Rhône 14 R engines	—	—

Me 328

The Me 328 midget aircraft was projected as an air-launched parasite fighter for use with long-range combat planes. Later the RLM ordered the design to be revised as a prototype fighter-bomber. Finally, as the war went against Germany, the Me 328 was intended as a single-seat suicide plane. The real number of prototypes is unknown, because most Me 328s were rebuilt during their flight career.

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Me 328 AV0	None	—	1st prototype, only used as static test-bed	—	Scrapped
Me 328 AV1	Unknown	0001	2nd prototype evaluated as glider a/c, later fitted with two As 014 pulse-jets and partly modified	03.08.42	Scrapped
Me 328 AV2	RL+TY	0002	3rd prototype of a bomber pre-series a/c with pulse-jet propulsion, later modified	Nov. 1942	Scrapped
Me 328 AV3	—	0003	4th prototype not completed	—	Scrapped
Me 328 BV1		—	Unpropelled a/c, only used for testing flight behaviour in general as training a/c	Feb. 1944	Unknown



Me 328 AV0 was originally envisaged as an unpowered 'glider-fighter' intended for air-launching from a carrier aircraft as a means of combatting enemy bomber formations. (Creek)

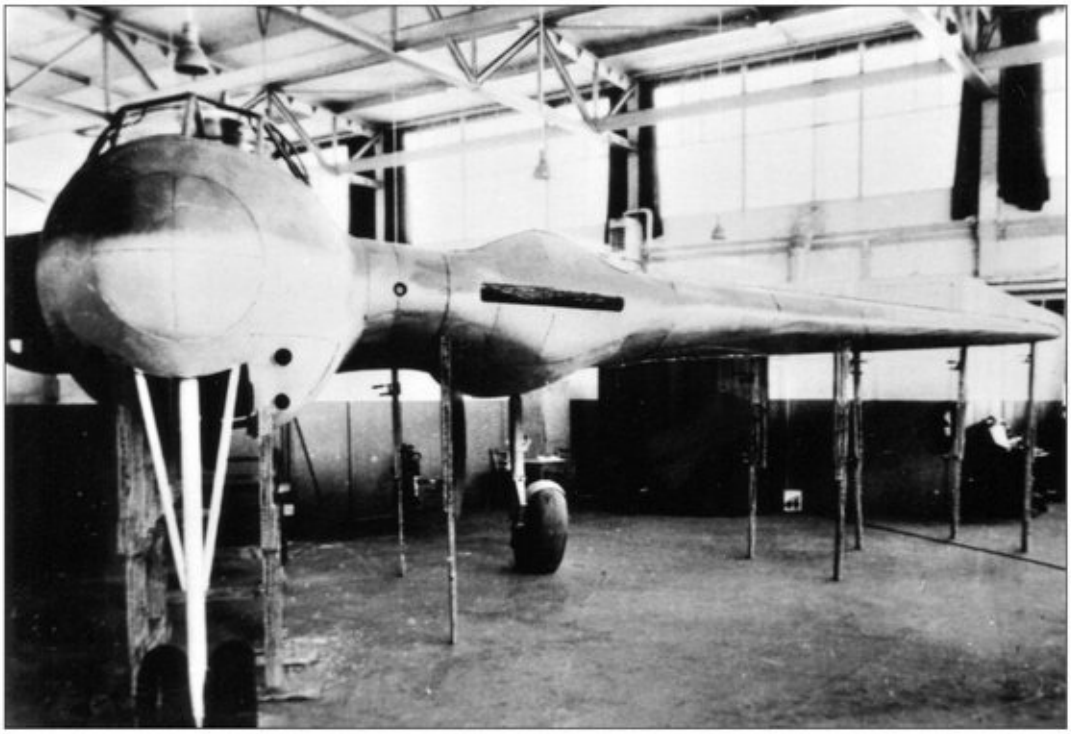
Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Me 328 BV2		—	2nd prototype, used for static tests	—	—
Me 328 BV3 to Me 328 BV10	—	—	Pre-series a/c to be used as training a/c, not built	—	Parts scrapped
Me 328 BV11 to Me 328 BV30	—	—	A/c proposed to become Me 328 B-1 prototype for tactical evaluation as single-seat suicide a/c	—	Parts scrapped

The Me 328 (prototype AV1 shown), powered by two wing-mounted pulse-jets, was
envisaged in both the fast bomber and suicide-attack roles. (Radinger)

Me 329

The Me 329 was suggested by Messerschmitt early in 1942 as a high-speed combat aircraft fitted with a remote controlled defensive armament and two pusher airscrews. Due to the expensive layout and the fact that jet engine multi-role combat planes like the Me 262 would be more effective in future, the development was completely terminated after a few wind-tunnel tests were finished in mid-1943.

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Me 329 V1	—	—	Only a mock-up built	—	



The development of the Me 329, a flying-wing heavy multi-role aircraft ended with the construction of a 1:1 wooden mock-up. (Trenkle)

Me 410

The upgraded Me 210 was designated Me 410. Most of the early prototypes were based on Me 210 airframes which were not of use any longer. After the evaluation of early prototypes fitted with a longer fuselage, stability tests and several engine trials immediately followed. Further Me 410 prototypes were equipped with RZ 65 rockets, heavy guns and advanced radio sets. With the appearance of the Me 262 RLM interest in the design was limited.

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Me 410 V1	DI+NW	0027	1st prototype, fitted with DB 603 A-1 engines, formerly Me 210, WNr. 0027	26.08.42	Struck off charge on 13.07.44
Me 410 V2	DI+NS	0023	2nd prototype, fitted with BK 5 cannon, DB 603 A-1, formerly Me 210, WNr. 0023	Nov. 1942	At Travemünde in Aug. 1943
Me 410 V3	DU+IY	0055	3rd prototype for flight development	Jan. 1943	At Rechlin from 23.02.43
Me 410 V4 to Me 410 V11	—	—	No data available	—	—

Some twenty Me 410 prototypes were tested, many of them former series aircraft. The remote-controlled guns ran into various problems which took a long time to resolve. (Radinger)

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Me 410 V12	NT+CW	0079	Purpose of evaluation not known	End 1942	At Rechlin from 27.11.43
Me 410 V13 to Me 410 V15	—	—	No data available	—	—
Me 410 V16	KD+JC	0211	Weapon trials with MG 131 armament	End 1942	At Tarnewitz on 15.08.43
Me 410 V17	VC+GH	2258	Tactical development as a destroyer a/c with increased forward armament	End 1942	Mentioned in Mar. 1944
Me 410 V18	TF+ED	10115	Prototype fitted with MK 103 cannon	End 1942	In action on 28.06.44
Me 410 V19 to Me 410 V21	—	—	No data available	—	—
Me 410 V22	GT+VC	0085	Evaluation of new larger cooling system	End 1942	Last mentioned Mar. 1944
Me 410 V23 and Me 410 V24	—	—	No data available	—	—

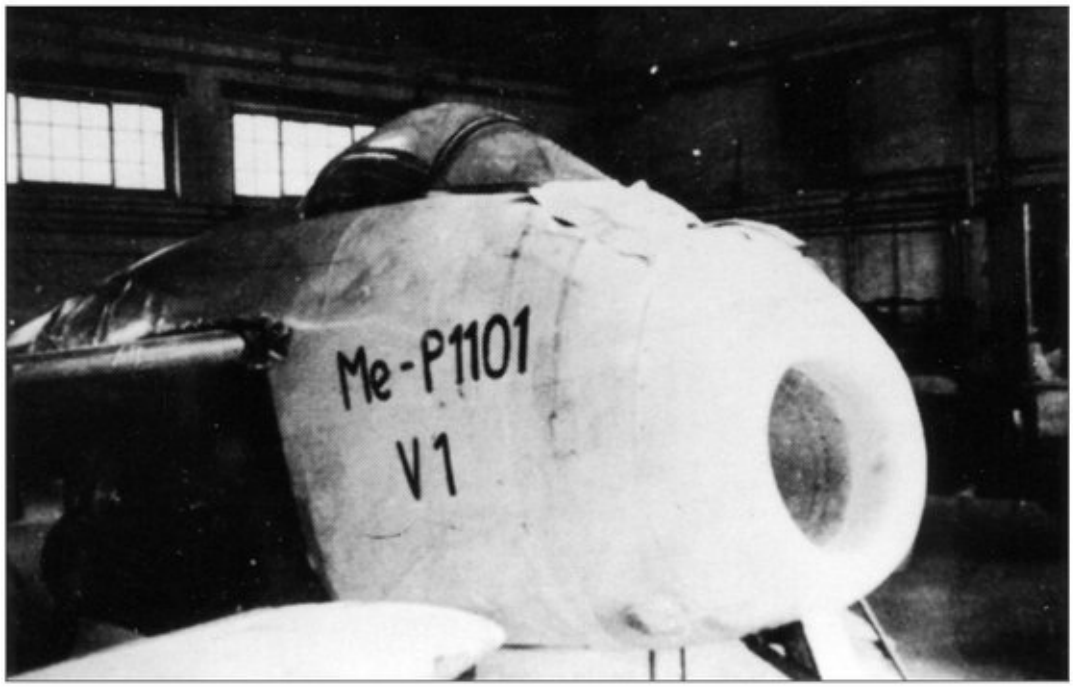
Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Me 410 V25	GE+KU	2349	1st prototype of Me 410 B series	End 1942	Flown until 1943

In the final attempts to increase the firepower of the heavy destroyers, the Me 410 was
fitted with either MK 103s or a single Bordkanone (BK) 5, a heavy aircraft gun developed from an anti-tank weapon. Initial firing trials were carried out
on the ground from makeshift stands. (Wachtl)

Me P 1101

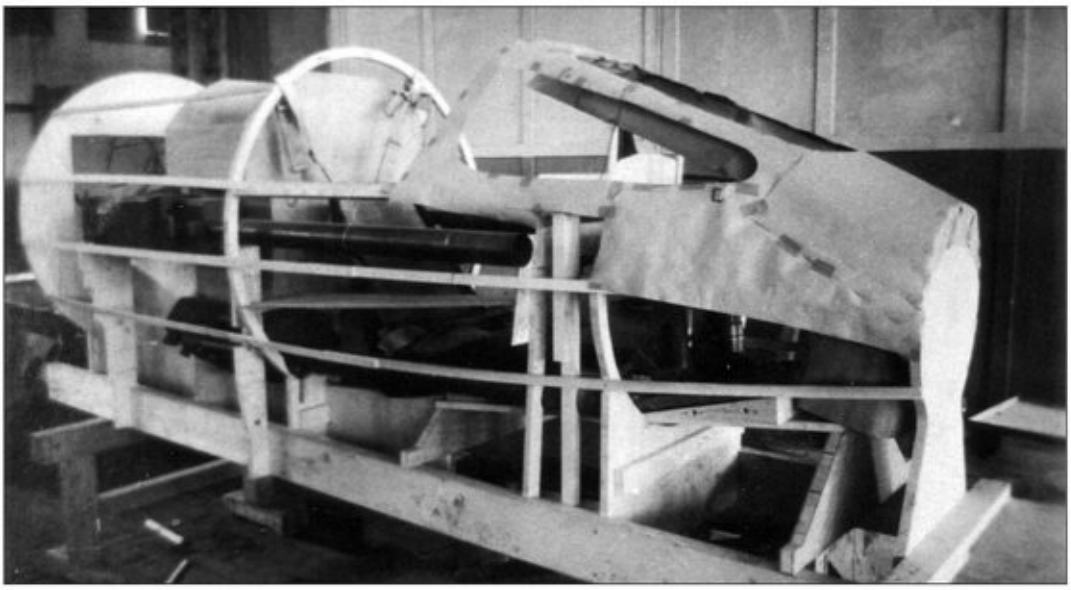
The first design of the single-seat jet-propelled Messerschmitt Project (P) 1101 was developed from 24 July 1944. The Me P 1101 V1 was built in an underground factory near Oberammergau. Because only a wooden dummy of the heavy HeS 011 powerplant was available, flight development was delayed. US ground forces captured the aircraft and took it to America.

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Me P 1101 V1	—	Unknown	1st prototype under construction	—	Captured by American forces in May 1945



The sole Me P 1101 prototype was captured at Oberammergau in the final phase of the war
and later taken to the USA for further development by the Bell Corporation.

(USAF)



The development of the new Me P 1112 jet fighter also took place at Oberammergau,
where the Messerschmitt research department had been housed to avoid damage from Allied bombing raids. (Radinger)

Me P 1112

Only a mock-up was built of the Me P 1112 fighter. It proved impossible to build a real scale prototype in early 1945. The mock-up was also found by GIs in the Alps.

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Me P 1112 M1	—	—	Mock-up partly finished in Apr. 1945	—	Captured by American forces in May 1945

8.18 Flugzeugbau Halle and Siebel

Fh 104 Hallore

Siebel's Fi 104 was described as a 'Reiseflugzeug – fünf-sitzig', a five-seat touring plane. From August 1935 it took part in an RLM competition with the

Ago 192 and Go 146 designs. When production was stopped in March 1941, only some 50 Fh 104s had been built.

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Fh 104 V1	D-IEHR	498	1st prototype, fitted with two HM 508 B engines	25.02.37	Used by Gen. Kesselring in Apr. 1939

The Fh 104 took part in a competition organized by the RLM, beating its two rivals,
the Ago 192 and Go 146. (Deutsche Lufthansa)

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Fh 104 V2	D-IQPG	499	2nd prototype, fitted with two HM 508 B engines	1937	Unknown
Fh 104 V3	D-IKSN	500	3rd prototype, later fitted with two HM 508 H in-line engines	1937	Unknown

Fh/Si 201

The Fh/Si 201 ‘Verbindungsf lugzeug 2 – 3 sitzig’, a two-or three-seat liaison aircraft with a fully glazed cabin, featured a very unusual layout. After two prototypes were completed and tested at Halle, development was terminated in

favour of the Fi 156 Storch.

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Si 201 V1	D-IYVN	2010001 (748)	1st prototype, with As 10 C in-line engine	30.07.37	Unknown
Si 201 V2	D-IWHL	2010002 (749)	2nd prototype fitted with new slotted ailerons and altered undercarriage	Early 1938	Unknown
Si 201 V3	—	2010003	A/c not completed	—	Scrapped

The experimental Si 201 V2 was one of three prototypes, of which only two were completed and flown. (Nowarra)

Si 202 Hummel

This small touring plane was tested with different in-line engines. Some seventy Si 202 A to C were built and handed over to the Luftwaffe and the Nationalsozialistisches Fliegerkorps.

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Si 202 V1	D-ESFH	2020001	1st prototype, flown with Salmson AD-9 in-line engine	26.04.38	Unknown
Si 202 V2	D-EFKH	2020002	2nd prototype, used for general flight testing, with larger fin section	Unknown	Unknown
Si 202 V3	D-EKDQ	2020003	3rd prototype, fitted with a Walter Mikron engine	Unknown	Unknown
Si 202 V4	D-EHCB	2020010	1st pre-series a/c of Si 202 A	Unknown	Unknown
Si 202 V5 to Si 202 V10	—	—	No details available	—	—
Si 202 V11	D-EEJD	2020011	1st prototype of Si 202 B, with Zündapp Z9-092 engine	Unknown	Unknown
Si 202 V12	D-ERHN	Unknown	2nd prototype of Si 202 B, with Zündapp Z9-092 engine	Unknown	Unknown
Si 202 V13	D-EFLC	Unknown	3rd prototype of Si 202 B, with Zündapp Z9-092 engine	Unknown	Unknown

Only thirteen prototypes of the Si 202 Hummel, a small sporting plane, were finished along
with a modest number of production aircraft belonging to three different series.
(Lange)

Si 204

Development of the Si 204 Verkehrsflugzeug (airliner) began in the spring of 1938 at Halle. Actual construction started early in 1939. After the outbreak of

war, work was suspended. Flight development therefore only got going in 1940. Some 1,200 of the twin-engine aircraft were built in total. Last tests included the creation of an armed low-level attack variant.

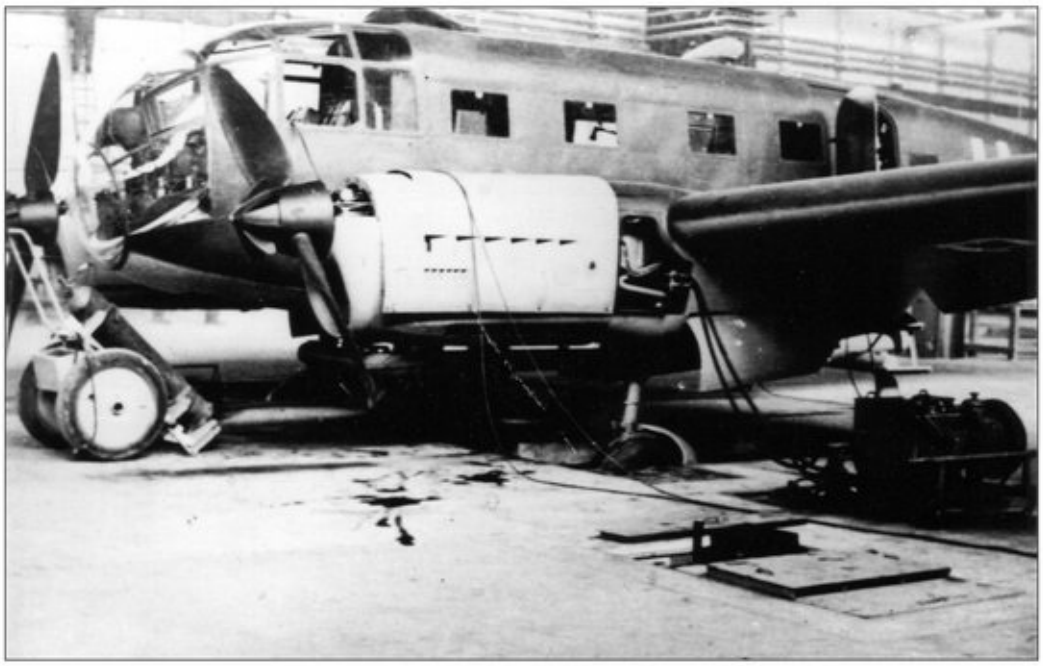
Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Si 204 V1	D-AEFR D-OEFR	204 0001	1st prototype, fitted with two As 410 A engines, promoted for civil use (A-0) evaluated by Lufthansa in July 1942	25.05.40	Scrapped end of 1942
Si 204 V2	D-IMCH	204 0002	2nd prototype, with revised undercarriage, a/c promoted for civil use (A-0)	Oct. 1940	Crashed at Rechlin on 26.02.44
Si 204 V3	Unknown	204 0003	1st prototype of Si 204 D-0 training a/c with two As 410 in-line engines	Early 1941	Crashed at Rechlin on 01.06.42
Si 204 V4	Unknown	204 0004	2nd prototype of Si 204 D-0 with As 411 prototype engines	Early 1941	Unknown

The first Si 204 (V1) was one of a total of 1,216 aircraft built. It differed from the well-known
D series which was equipped with a fully glazed nose. (Deutsche Lufthansa)

Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Si 204 V5	—	204 0005	Static structural test-bed	—	—
Si 204 V6	Unknown	204 0006	Development with improved As 410 in-line engines	Mid-1942	Unknown
Si 204 V7	Unknown	204 0007	Evaluation of weather a/c	Mid-1942	Unknown
Si 204 V8	Unknown	204 0008	General flight development of all-weather flying	Mid-1942	Unknown
Si 204 V9	Unknown	204 0009	General flight development of all-weather flying	Mid-1942	Crashed at Burg on 30.06.43
Si 204 V10	Unknown	204 0010	General flight development of all-weather flying	Mid-1942	Unknown
Si 204 V11	Unknown	204 0011	General flight development of all-weather flying	Mid-1942	Unknown
Si 204 V12	Unknown	204 0012	General flight development of all-weather flying	Mid-1942	Unknown
Si 204 V13	Unknown	204 0013	General flight development of all-weather flying	Late 1942	Unknown
Si 204 V14	Unknown	204 0014	1st prototype of Si 204 D-2	Late 1942	Unknown
Si 204 V15	Unknown	204 0015	Development of Si 204 D-0 fitted with two As 411 engines	Late1942	Unknown
Si 204 V16	Unknown	204 0016	Flight development of a Si 204 A-0 fitted with two As 402 engines	Early 1943	Unknown
Si 204 V17	Unknown	204 0017	No details available	—	—

This photo was taken by one of the crew members from Siebel Flugzeugwerke at Halle during the flight testing of an Si 204 D-1. The aircraft shown was possibly

Si 204 V3 which was later lost at Rechlin. ***(Rohrbach)***



An unknown prototype Si 204 aircraft, featuring the definitive fully glazed nose, during the installation of its Argus in-line engines. (Kosnar)

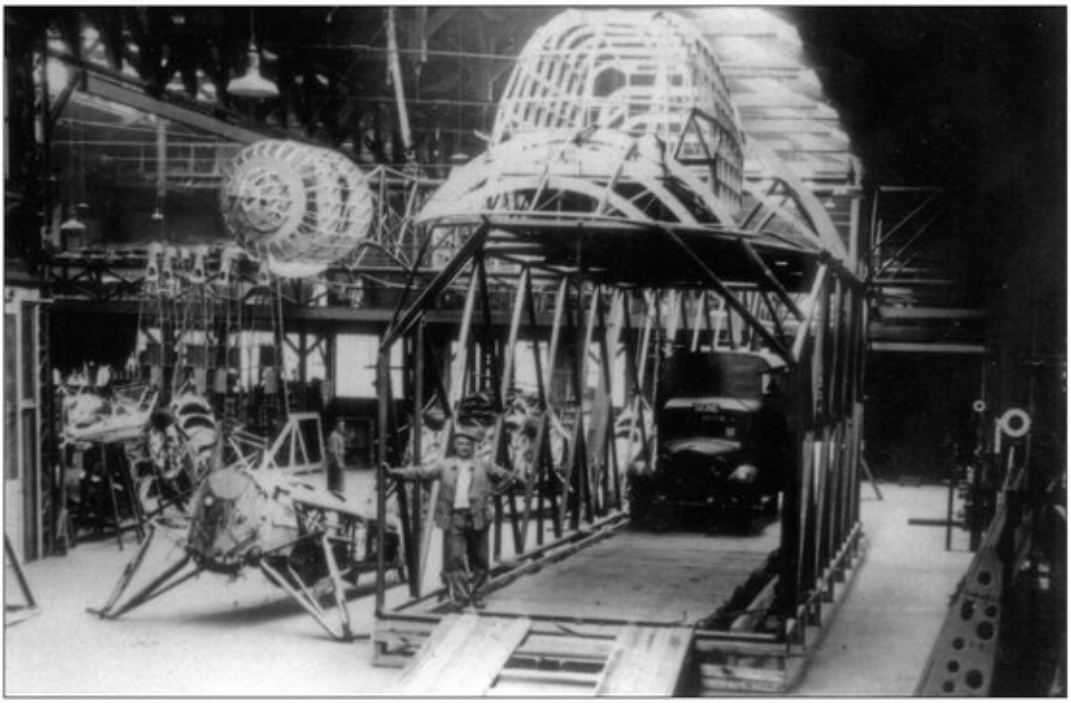
Designation	Markings	Production No.	Remarks	First flight	Ultimate fate
Si 2o4 V18	Unknown	204 0018	No details available	—	—
Si 204 V19	Unknown	204 0019	Flight development of a rebuilt Si 204 A-0 fitted with As 411 engines	Unknown	Unknown
Si 204 V20	Unknown	204 0020	No details available	—	—
Si 204 V21	Unknown	204 0021	No details available	—	—
Si 204 V22	Unknown	Unknown	1st prototype of Si 204 E-0, with a gun turret and bomb-release system	1944	Unknown
Si 204 V23	Unknown	Unknown	2nd prototype of Si 204 E-0, with a gun turret and bomb-release system	1944	Unknown

8.19 Zeppelin

ZSO 532

By 1944, only a full-size mock-up of the giant ZSO 532 transport aircraft,

powered by six Gnome-Rhône 18 R radial engines, had been constructed. Final drawings were not finished until 15 March 1945.



A close-up view of the ZSO 523 mock-up which was built in France. (Ricco)

1 ‘XY’ were radio navigation and guidance systems.